

#18.

Hawaiian Explorations.

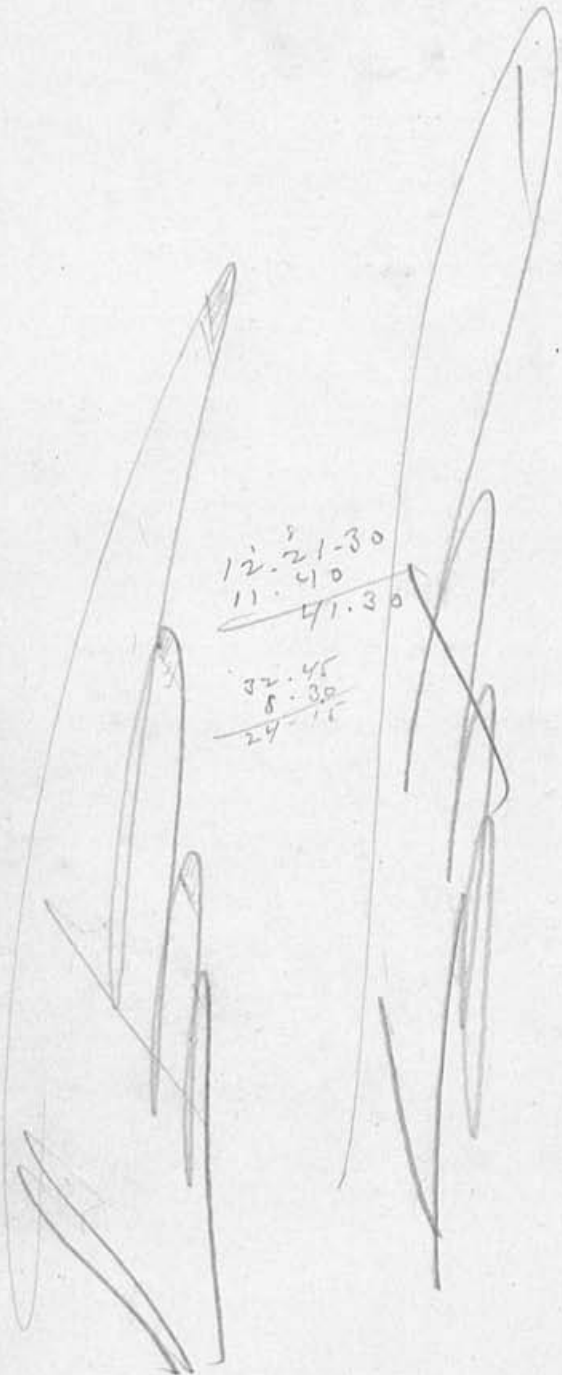
D^s 4071-4109.

H^y 4598-4608.

July 19th - 24th 1902.

Next #. 4598.
" Dr. 4071.

4109.
3790
319



12.21-30
11.40
41.30

32.45
8.30
24.15

$$\begin{array}{r} 3-79 \\ -2-43 \\ \hline 86 \end{array}$$

$$\begin{array}{r} 3950 - \cancel{170} \\ \quad \quad \quad 72 \\ \quad \quad \quad 73 \\ \hline 3780 - 147 \\ \hline 4000 - 147 \\ \hline 3853 \end{array}$$

3987

$$\begin{array}{r} 75 \\ 12 \\ \hline 87 \end{array}$$

2500
 2600
 2700
 2800
 2900
 3000
 3100
 3200
 3300
 3400
 3500
 3600
 3700
 3800
 3900
 4000

SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25				
50				
100				
200				
300				
400				
500				
600				
700				
800				
900				
1000				

REMARKS :

Hutchinson

No. *4071* Date *July 19th*
Tanner Machine. Reel.

Turns *50* Cor. + *2* Depth *52 fms*

Shot or lead *36 lbs*

Bottom *fm co + vol S For*

Bottom temperature *73*

No. of thermometer *98236* Cor. *-0.1*

Corrected temperature *72.9* { *X 14° W*

Air *81* Surface *76* Drift *6/10'*

Trawl or dredge *8' Tanner and apron*

SOUNDING WIRE.		TURNS.	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
<i>11-59.20</i>	<i>12-00.40</i>	0	<i>12-06.15</i>	<i>35.15</i>
<i>59.50</i>	<i>59.55</i>	90	<i>10.00</i>	<i>31.10</i>
		200		
		300	<i>21^m</i>	
		400		
		500		
		600		
		700		
		800		
		900		
		1000		
		1100		
		1200		
		1300		
		1400		
		1500		
		1600		
		1700		
		1800		
		1900		
		2000		
		2100		
		2200		
		2300		
		2400		

also marks end of A.S. 4070.

NE. Coast Maui, } 8 78° 30' E, 16 ⁸/₁₀'
 Puniaua Point, }

	2500	
	2600	
	2700	
	2800	
	2900	
	3000	
	3100	
	3200	
	3300	
	3400	
	3500	
496	3600	12
30	3700	
446	3800	
	3900	
	4000	

SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25		Next Hy. 4598.		
50		" Di. 4071.		
100				
200		8' Tanner -		
300		1 tetradon, many of 2 sps		
400		platophrys; many sponges -		
500		1 very large & massive;		
600		1 hermit, 1 shrimp, several		
700		hydroids, many ophiurans -		
800				
900				
1000				

REMARKS:

Sturtevant

No. *4072* Date *July 19th*

Tanner Machine. — Reel.

Turns *54* Cor. + *2* Depth *56 fms*

Shot or lead *36 lbs.*

Bottom *crs co S. Fr.*

Bottom temperature *73.5⁰*

No. of thermometer *98236* Cor. *-0.1*

Corrected temperature *73.4* (*N 48° W*)

Air *81* Surface *76* Drift *2/10'*

Trawl or dredge *8' Tanner with Apron*

SOUNDING WIRE.		TURNS.	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
<i>12-36.25</i>	<i>38⁵⁰</i>	0	<i>12-42.50</i>	<i>13 =</i>
<i>37.00</i>	<i>37.05</i>	<i>90</i>	<i>47.10</i>	<i>1-08.25</i>
<i>Marks used if</i>		200	<i>21^m</i>	
<i>4071</i>		300		
		400		
		500		
		600		
		700		
		800		
		900		
		1000		
		1100		
		1200		
		1300		
		1400		
		1500		
		1600		
		1700		
		1800		
		1900		
		2000		
		2100		
		2200		
		2300		
		2400		

Puniawa Point, $87^{\circ}30'E$, $7\frac{1}{10}'$

OK
H.C.B.
 $\frac{1}{2}$

496
54

442

12

2500
2600
2700
2800
2900
3000
3100
3200
3300
3400
3500
3600
3700
3800
3900
4000

SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25	8' Tanner -			
50	1 lq sponge; sev'l sp. small			
100	sponges; 2 sps polyzoa; about			
200	3 sps hydroids; 1 gorgonian;			
300	1 starfish; ophiurans - many in			
400	sponges; 1 fanellius; 1 hermit;			
500	1 crab; sev'l of 2 sps platoporus;			
600	1 antigonia; 1 compound ascidian.			
700				
800				
900				
1000				

REMARKS:

Hutchinson

No. *D 4073* Date *19th July*

Tanner Machine. #1 Reel. *Havy.*

Turns *66* Cor. + *3* Depth *69 f*

Shot or lead *36 lbs.*

Bottom *co. lo. S. For.*

Bottom temperature *72°*

No. of thermometer *98236* Cor. *-0.1*

Corrected temperature *71.9* *N 48° W*

Air *84* Surface *76* Drift *8/10*

Trawl or dredge *Tanner with apron*

SOUNDING WIRE.

DOWN. UP.

1-15.00 17.00
15.30 15.35
Marks end of
D 4072

TURNS.

0
100
120
~~200~~
300
400
500
600
700
800
900
1000
1100
1200
1300
1400
1500
1600
1700
1800
1900
2000
2100
2200
2300
2400

DREDGE ROPE.

DOWN. UP.

1-20.50 54.10
26.15 50.15
27.25 49.20

22^m


Puniawa Pt, S 72° E, 7 8/10'

OK
K.C.B.
1/4

2500
2600
2700
2800
2900
3000
3100
3200
3300
3400
3500
3600
3700
3800
3900
4000

496 12
66
430

SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25	8' Tanner			
50	1 sponge, owl flatophryps;			
100	1 pira canthus; 1 squid;			
200	3 urchins			
300				
400				
500				
600				
700				
800				
900				
1000				

REMARKS:

Handwritten scribbles

No. *5* 4074 Date 19th July.

Tanner Machine. Reel.

Turns 75 Cor. + 3 Depth 78 f

Shot or lead 36 lbs.

Bottom co. S. For.

Bottom temperature 71

No. of thermometer 98236 Cor. -0.2 (N51°W)

Corrected temperature 70.8

Air 81 Surface 76 Drift 9/10

Trawl or dredge 8' Tanner with sprin

SOUNDING WIRE.		TURNS.	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
1. 55.50	58.15	0	2. 01.00	35.15
56.40	56.45	100	05.00	31.10
		150	07.10	
Marked end of		175	21.45	28.05
50 4073		200		
		210		
		220		
		230		
		240		
			21 m	

Puniawa Pt. S 70° E, 8 5/10'

516
810
24

496
75
—
421

2500
2600
2700
2800
2900
3000
3100
3200
3300
3400
3500
3600
3700
3800
3900
4000

SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25	8' Janner			
50	2 Pterophrys; 1 Corpiena;			
100	1 starfish.			
200				
300				
400				
500				
600				
700				
800				
900				
1000				

REMARKS:

Hydrographer

No. *Hy 4598* Date *July 19th*
Tanner Machine. Reel.

Turns *82* Cor. + *3* Depth *85 f*

Shot or lead *36 lbs.*

Bottom *crs. br. S. Fgy.*

Bottom temperature *66.7*

No. of thermometer *98236* Cor. *-0.2*

Corrected temperature *66.5*

Air *81* Surface *76* Drift

~~Trawl or dredge~~

SOUNDING WIRE.		TURNS.	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
<i>2.36.50</i>	<i>39.10</i>	0		
<i>37.25</i>	<i>37.30</i>	100		
		200		
		300		
		400		
		500		
		600		
		700		
		800		
		900		
		1000		
		1100		
		1200		
		1300		
		1400		
		1500		
		1600		
		1700		
		1800		
		1900		
		2000		
		2100		
		2200		
		2300		
		2400		

Puniawa Pt. 868°30'E., 95/10'

OK
HUB.
2/21

496
8.2

414

12

	2500	
	2600	
	2700	
	2800	
	2900	
	3000	
	3100	
	3200	
	3300	
	3400	
	3500	
	3600	
	3700	
	3800	
	3900	
	4000	

SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25				
50				
100				
200				
300				
400				
500				
600				
700				
800				
900				
1000				

REMARKS:

571. *Trinity* *P. 2 62. 8* *17*
 No. *4975* *D2* Date *21 July 1902*
 Machine. *Lucas* Reel. *Lucas*
 Turns *45* Cor. + *4* Depth *49 fms*
 Shot or lead *36 #4*
 Bottom *M. gy. S. W.*
 Bottom temperature *72.5*
 No. of thermometer *98236* Cor. *-0.1*
 Corrected temperature *72.4* (*N 27° W*)
 Air *77* Surface *76* Drift *1.0'*
 Trawl or dredge *8' Tanner with 4 pan*

SOUNDING WIRE.		TURNS.	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
<i>8:09.30</i>	<i>8:10.00</i>	<i>0</i>	<i>8:15.00</i>	<i>44.00</i>
<i>09.00</i>	<i>8:09.10</i>	<i>100</i>	<i>18.30</i>	<i>39.20</i>
		<i>200</i>		
		<i>300</i>	<i>21</i>	<i>m</i>
		<i>400</i>		
		<i>500</i>		
		<i>600</i>		
		<i>700</i>		
		<i>800</i>		
		<i>900</i>		
		<i>1000</i>		
		<i>1100</i>		
		<i>1200</i>		
		<i>1300</i>		
		<i>1400</i>		
		<i>1500</i>		
		<i>1600</i>		
		<i>1700</i>		
		<i>1800</i>		
		<i>1900</i>		
		<i>2000</i>		
		<i>2100</i>		
		<i>2200</i>		
		<i>2300</i>		
		<i>2400</i>		

Puniawa Point, 87° 30' E., 6.0'

OK
~~496~~

12

4310 700
 45 700

 4265

2500
 2600
 2700
 2800
 2900
 3000
 3100
 3200
 3300
 3400
 3500
 3600
 3700
 3800
 3900
 4000

SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25	8' Tanner -			
50	1 starfish; 2 sps ophiurans;			
100	swl of 2 sps platophryps;			
200	1 paraspercis; 2 antipatharian			
300	corals; 1 sponge; polyzoa on			
400	sponge; swl alpheid and			
500	worms in sponge -			
600	<u> </u>			
700				
800				
900				
1000				

REMARKS:

507. *Stacy* *Ad.* *2-*
 No. *4076* Date *21 July 07.*

Machine. *Vaner* Reel. *2*
 Turns *57* Cor. + *2* Depth *57 fms.*

Shot or lead *36*
 Bottom *Co. S. Sk. G. H. 6*
 Bottom temperature *70.6*

No. of thermometer *98236* Cor. *-0.2*
 Corrected temperature *70.4* *(N 320 E)*

Air *77* Surface *Vaner* Drift *8/16'*
 Trawl or dredge *Vaner with apron*

SOUNDING WIRE.

DREDGE ROPE.

SOUNDING WIRE.		TURNS.	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
<i>8.4</i>	<i>8.15</i>	<i>57</i>	<i>8:50.41</i>	<i>9:19.30</i>
	<i>8.30</i>	<i>100</i>	<i>9:00.40</i>	<i>9:15.52</i>
		<i>200</i>		
		<i>300</i>		
		<i>400</i>	<i>15</i>	<i>am</i>
		<i>500</i>		
		<i>600</i>		
		<i>700</i>		
		<i>800</i>		
		<i>900</i>		
		<i>1000</i>		
		<i>1100</i>		
		<i>1200</i>		
		<i>1300</i>		
		<i>1400</i>		
		<i>1500</i>		
		<i>1600</i>		
		<i>1700</i>		
		<i>1800</i>		
		<i>1900</i>		
		<i>2000</i>		
		<i>2100</i>		
		<i>2200</i>		
		<i>2300</i>		
		<i>2400</i>		

*This marks
 the end of
 ST 4076*

Puniawa Pt., S 72° 30' E., 6 ⁷/₁₀'

OK
HCB
2/2

2500
2600
2700
2800
2900
3000
3100
3200
3300
3400
3500
3600
3700
3800
3900
4000

SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25	8' Tanner —			
50	1 halientichthys; several			
100	platophrep; 2 ophiurans;			
200	2 sp. polyzoa; little hydroids;			
300	Compound ascidian;			
400	(halientichthys had several			
500	gastropod shells in stomach.)			
600	←			
700				
800				
900				
1000				

REMARKS:

507. *507.*
 No. *4099* *24* Date *2 July 02*
 Machine. Reel.

Turns *65* Cor. + *3* Depth *68 fms*

Shot or lead *26 #*

Bottom *co. s. sh. gy. s.*

Bottom temperature *69.5*

No. of thermometer *98226* Cor. *-0.2*

Corrected temperature *68.8*

Air *78* Surface *76* Drift

Trawl or dredge

SOUNDING WIRE.		TURNS.	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
<i>9:21.00</i>	<i>9:22.00</i>	<i>65</i>		
		100		
		200		
		300		
		400		
		500		
		600		
		700		
		800		
		900		
		1000		
		1100		
		1200		
		1300		
		1400		
		1500		
		1600		
		1700		
		1800		
		1900		
		2000		
		2100		
		2200		
		2300		
		2400		

*This marks
 end of
 514076.*

Puniawz Pt, 066° E, 6⁶/₁₀'

OK
HVS
/

2500
2600
2700
2800
2900
3000
3100
3200
3300
3400
3500
3600
3700
3800
3900
4000

496 12

SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25				
50				
100				
200				
300				
400				
500				
600				
700				
800				
900				
1000				

REMARKS:

577
Grainy
 No. 407751

P. S. 64.8

3-

Date 21 July 02

Machine. Reel. Turns 90 Cor. + 9 Depth 99 fms

Shot or lead 36 x 9

Bottom fine. Co. S. \$ of

Bottom temperature 70.3

No. of thermometer 98236 Cor. -0.2

Corrected temperature 70.0 (X 5) 9.

Air 78 Surface 76 Drift 1 x 10'

Trawl or dredge 10' Blake 35' haul

SOUNDING WIRE.		TURNS.	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
9.57.15	53.30	0	9.57.45	10.31.00
57.00	52.30	90	10.01.30	76.00
		100	02.30	
		120	04.30	
		140	3.20	10.25.00
		160		
		180		
		200		
		220		
		240		
		260		
		280		
		300		
		320		
		340		
		360		
		380		
		400	20	
		420		
		440		
		460		
		480		
		500		
		520		
		540		
		560		
		580		
		600		
		620		
		640		
		660		
		680		
		700		
		720		
		740		
		760		
		780		
		800		
		820		
		840		
		860		
		880		
		900		
		920		
		940		
		960		
		980		
		1000		

Puniawa Pt, S 45° 45' E, 6 1/10'

OK
M.A.
/4

4310 20V

2500
2600
2700
2800
2900
3000
3100
3200
3300
3400
3500
3600
3700
3800
3900
4000

SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25	10'	Blake	—	
50		Many of 3 sps starfish;		
100		1 urchin; many ophiurans;		
200		many of 4 sps worms in small		
300		stands; sev'l sps hydroids; many		
400		of 3 sps anemones, 2 gastropods;		
500		1 crab; sev'l of 2 sps anomurans;		
600		3 shrimps; sev'l of 2 sps of		
700		platoshrups; 2 sps paraperids;		
800		2 scopaena; 1 antigonia;		
900		1 nudibranch.		
1000				

REMARKS:

507. *Stacey*
 No. 4078 *51* Date 21 July 02
 Machine. 1 Reel. *Tracy*
 Turns 96 Cor. + 10 Depth 106 fm
 Shot or lead 36 # 10
 Bottom *fm. Co. S. g. m.*
 Bottom temperature 66
 No. of thermometer 98236 Cor. -0.2
 Corrected temperature 66.7 *(N 61.8)*
 Air 79 Surface 76 Drift *lat 8/104*
 Trawl or dredge 10 ft Blake *31A*

SOUNDING WIRE.		TURNS.	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
10:32.45	10:36.20	0	10:45.00	11:19.00
33.35	35.05	96	49.30	14.30
		100	51.50	11:12.80
		150		
		200		
		300	20	<i>m</i>
		400		
		500		
		600		
		700		
		800		
		900		
		1000		
		1100		
		1200		
		1300		
		1400		
		1500		
		1600		
		1700		
		1800		
		1900		
		2000		
		2100		
		2200		
		2300		
		2400		

This marks end of 51 4077

Puniawa Pt, S 40° E., 6 1/10'

Handwritten scribbles

	2500	
	2600	
	2700	
	2800	
	2900	
	3000	
	3100	
	3200	
	3300	
	3400	
	3500	
	3600	
	3700	
	3800	
	3900	
	4000	

SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25	Blank			
50		Little urchins; hydroids;		
100		and ophiurans		
200				
300				
400				
500				
600				
700				
800				
900				
1000				

REMARKS:

Trawl some to surface with net doubled every top beam, very little stuff in net.

No. **4079** Date **21 July 07.**
 Machine. **Wray** Reel. **Wray**
 Turns **130** Cor. + **13** Depth **143**

Shot or lead **36**
 Bottom **Sy. S. Gr. e**
 Bottom temperature **61.0**
 No. of thermometer **98736** Cor. **-0.2**
 Corrected temperature **60.8**
 Air **78** Surface **78** Drift **12.10**
 Trawl or dredge **10 ft Blake, bc tail**

SOUNDING WIRE.		TURNS.	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
11:20.30	11.44.10	0	11.30.00	12.15.30
21.20	23.40	100	24.00	11.30
21.30	23.00	130	38.00	07.30
		300	42.00	04. —
		315	50.20	12.02.45
		330-400		
		500		
		600	20 min	
		700		
		800		
		900		
		1000		
		1100		
		1200		
		1300		
		1400		
		1500		
		1600		
		1700		
		1800		
		1900		
		2000		
		2100		
		2200		
		2300		
		2400		

Marks end of
 Dr. 4079.

Puniawaba Pt, S 31° 30' E., 6.0'

OK
J.S.B.
/ 2/4

	2500	
	2600	
	2700	
	2800	
	2900	
	3000	
	3100	
	3200	
	3300	
	3400	
	3500	
	3600	
	3700	
	3800	
	3900	
	4000	

SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25	Blake net contents.			
50	1 urchin; swt quarts clype-			
100	astrids; 4 sps starfish; many			
200	of 2 or 3 sps sphaerians; 1 synapta			
300	1 nemertean; 1 octopus; swt			
400	gastropods; swt dead solitary			
500	Corals; swt brachiopods; few of			
600	2 sps Crabs; few munida; 2 sps			
700	pennatulids; few hydroids;			
800	2 sps. peristedion; 1 triglid;			
900	2 synodus; 2 scorpaena;			
1000	1 malthropis; 1 species fish(?).			

REMARKS:

No. *Dr. 4080*, Date *21 July '02*.
Sigsbee Machine. / Reel *None*
 Turns *162* Cor. + *16* Depth *178 fms.*
 Shot or lead *36 Lbs.*

Bottom *gy. S. For.*

Bottom temperature *56.7*

No. of thermometer *98286*. Cor. *-0.3*

Corrected temperature *56.4* (*N 13° E*)

Air *79°* - Surface *76°* - Drift *1 1/10'*

Trawl or dredge *10' Blake, 60 lbs tair mt.*

SOUNDING WIRE.

DOWN.

UP.

TURNS.

DREDGE ROPE.

DOWN.

UP.

<i>17.18.30</i>	<i>23.-</i>	<i>0</i>	<i>12.32.30</i>	<i>1.24.30</i>
<i>19.25</i>	<i>22.-</i>	<i>100</i>	<i>36.25</i>	<i>20.30</i>
<i>19.50</i>	<i>21.20</i>	<i>162</i>	<i>40.05</i>	<i>16.50</i>
		<i>200</i>	<i>44.30</i>	<i>12.55</i>
		<i>300</i>		
<i>Also marks end</i>		<i>400</i>	<i>17.48.10</i>	<i>1.08.20</i>
<i>of</i>		<i>500</i>		
<i>Dr. 4079.</i>		<i>600</i>	<i>20 min.</i>	
		<i>700</i>		
		<i>800</i>		
		<i>900</i>		
		<i>1000</i>		
		<i>1100</i>		
		<i>1200</i>		
		<i>1300</i>		
		<i>1400</i>		
		<i>1500</i>		
		<i>1600</i>		
		<i>1700</i>		
		<i>1800</i>		
		<i>1900</i>		
		<i>2000</i>		
		<i>2100</i>		
		<i>2200</i>		
		<i>2300</i>		
		<i>2400</i>		

Puniawa Pt, S 23° E., 6 ⁶/₁₀'

OK
S.W.
in

152
16
178

2500
2600
2700
2800
2900
3000
3100
3200
3300
3400
3500
3600
3700
3800
3900
4000

SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25		Catch -		
50				
100		1 Spatangoid.		
200		bucket or more of Clypeosclerids, sev'l starfish &		
300		2 sps; few ophiurans; 2 crabs;		
400		3 munida; 1 brachiopod; many		
500		of 2 sps. simple corals; 8 peristidion;		
600		1 trigloid; 1 scorpæna; 1 malloporis;		
700		sev'l of 2 sps. flounders; 1 fish -		
800				
900				
1000				

REMARKS:

Arctic

No. *Dr. 4081* Date *21 July '02*

Sigsbee Machine. 1 Reel. *Thavy*

Turns *184* Cor. + *18* Depth *202 fms.*

Shot or lead *36 Lbs.*

Bottom *gy S. For.*

Bottom temperature *52. -*

No. of thermometer *98236.* Cor. *-0.3*

Corrected temperature *51.7* (*X 51.6*)

Air *80° -* Surface *76° -* Drift *1 1/10'*

Trawl or dredge *10' Blake, 60 lbs. tail weight.*

SOUNDING WIRE.		TURNS.	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
<i>1. 28.10</i>	<i>1. 32.45</i>	<i>0</i>	<i>1. 40.40</i>	<i>2. 59. -</i>
<i>29. -</i>	<i>31.40</i>	<i>100</i>	<i>45. -</i>	<i>35.30</i>
<i>1. 29.50</i>	<i>1. 30.30</i>	<i>184</i>	<i>49. -</i>	<i>32. -</i>
		<i>200</i>	<i>53. -</i>	<i>28.00</i>
		<i>300</i>	<i>57.15</i>	<i>24.40</i>
		<i>400</i>	<i>2. 01. -</i>	<i>2. 22.40</i>
		<i>450</i>		
		<i>500</i>		
		<i>600</i>		
		<i>700</i>		
		<i>800</i>		
		<i>900</i>		
		<i>1000</i>		
		<i>1100</i>		
		<i>1200</i>		
		<i>1300</i>		
		<i>1400</i>		
		<i>1500</i>		
		<i>1600</i>		
		<i>1700</i>		
		<i>1800</i>		
		<i>1900</i>		
		<i>2000</i>		
		<i>2100</i>		
		<i>2200</i>		
		<i>2300</i>		
		<i>2400</i>		

also marks end of Dr. 4080.

21 min

Quinawabt, S 17° 45' E., 7 ⁶/₁₀'

OL
H.C.
/n

2500
2600
2700
2800
2900
3000
3100
3200
3300
3400
3500
3600
3700
3800
3900
4000

184
18

202 fms.

SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25		Catch -		
50		5 peristodion; 4 flounders;		
100		5 scorpæna; 1 Chlorothalmus;		
200		1 trigloid. many of 3 sps starfish;		
300		many spatangoids. sev of 3 sps. of		
400		pennatulids; 1 hydroid; 1 urchin;		
500		3 kinds barnacles attached to urchin		
600		spines; 2 nudibranchs; 2 tectibranchs.		
700		2 sps worms; many murexida;		
800		few of 5 sps. of prawns; 2 sps crabs;		
900		sev' hermits; 1 balanoglossus.		
1000				

REMARKS:

on
April

No. *Dr. 4082*. Date *21 July 02*

Sigsbee Machine. 1 Reel. *Drury*.

Turns *200* Cor. + *20* Depth *220 fms.*

Shot or lead *36 lbs.*

Bottom *gy S.*

Bottom temperature *49.0*

No. of thermometer *98236* Cor. *-0.2*

Corrected temperature *48.8* (*NE*)

Air *81.0* - Surface *76.0* - Drift *1 1/10'*

Trawl or dredge *10' Blake, 60 lbs. tail weight.*

SOUNDING WIRE.		TURNS.	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
<i>2. 43.30</i>	<i>2. 49.15</i>	0	<i>4. 55. -</i>	<i>3. 55. -</i>
<i>44.15</i>	<i>47.05</i>	100	<i>59.40</i>	<i>50.25</i>
<i>2. 45.15</i>	<i>2. 46.05</i>	200	<i>3. 03.50</i>	<i>46.10</i>
		300	<i>08.20</i>	<i>41.30</i>
		400	<i>11.55</i>	<i>36.40</i>
		<i>450</i>	<i>3. 18.40</i>	<i>3. 34.40</i>
		500		
		600	<i>21 min.</i>	
		700		
		800		
		900		
		1000		
		1100		
		1200		
		1300		
		1400		
		1500		
		1600		
		1700		
		1800		
		1900		
		2000		
		2100		
		2200		
		2300		
		2400		

Also mark end of Dr. 4081.

Puniawa Pt., S 110 30' E, 8 1/10'

OK
H.C.
2

2500
2600
2700
2800
2900
3000
3100
3200
3300
3400
3500
3600
3700
3800
3900
4000

200
20
220 fms
4810 205

SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25		Catch		
50		3 peristedion; 1 myctophum;		
100		2 flounders; 2 chlorophthalmus;		
200		1 scorpaena penigera. 2 other		
300		scorpaena; many munida; 1 crab;		
400		2 sps shrimps; 2 sps barnacles on		
500		urchin spines; 2 sps worms;		
600		swl tectibranchs; 2 pennatulids;		
700		1 squid; many of 6 sp. starfish;		
800		1 urchin; fragments of spatangoid;		
900		1 pelecypod -		
1000				

REMARKS:

No. *Dr. 4083*. Date *21 July '02*.

Sigsbee Machine. 1 Reel. *Heavy*.

Turns *216* Cor. + *22* Depth *238* fms.

Shot or lead *36* Lbs.

Bottom *gy S.*

Bottom temperature

No. of thermometer } *None* Cor.

Corrected temperature

Air *84°* - Surface *76°* - Drift } *N 20 E*
1 3/10'

Trawl or dredge *10' Blake, 60 Lbs. tail weight*

SOUNDING WIRE.		TURNS.	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
<i>3.50.30</i>	<i>4.01.-</i>	0	<i>4-10.20</i>	<i>5.03.10</i>
<i>51.30</i>	<i>4.00.05</i>	100	<i>14.50</i>	<i>59.30</i>
<i>52.20</i>	<i>59.-</i>	200	<i>19.00</i>	<i>56.05</i>
<i>3.52.25</i>	<i>3.58.50</i>	216 300	<i>23.25</i>	<i>51.50</i>
		400	<i>27.30</i>	<i>47.55</i>
		500		
		600	<i>20</i>	
		700		
		800		
		900		
		1000		
		1100		
		1200		
		1300		
		1400		
		1500		
		1600		
		1700		
		1800		
		1900		
		2000		
		2100		
		2200		
		2300		
		2400		

Also marks end of Dr. 4082.

Puniana Pt, 84°15 E, 8⁸/₁₀'

OK
H.P.
-3

2500
2600
2700
2800
2900
3000
3100
3200
3300
3400
3500
3600
3700
3800
3900
4000

216
22
238

SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25		Catch -		
50				
100		sev of 3 sps shrimps; 1 hermit;		
200		many munida; 2 sps crabs;		
300		2 barnacles; 3 pelicanichthys;		
400		2 sps peristodion; few of 2 sps		
500		of urchins; 3 of 2 sps of spatu-		
600		goids; many of 4 sps of starfish;		
700		few synapta; many of 2 sps of		
800		holothuria; sev of dentalia;		
900		2 gastropods; 1 anemone -		
1000				

REMARKS:

Antennae

No. *N 4084* Date *July 21st*

Sigsbee Machine. # *9* Reel. *Navy*

Turns *230* Cor. + *23* Depth *253 fms*

Shot or lead *36 lbs*

Bottom *fm gy S.*

Bottom temperature *46.9°*

No. of thermometer *98236* Cor. *-0.2*

Corrected temperature *46.7* (*N 16° E*)

Air *80* Surface *76* Drift *8/10'*

Trawl or dredge *10' Blake, 60 lbs Trawl*

SOUNDING WIRE.		TURNS.	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
<i>5:05.50</i>	<i>11.25</i>	<i>0</i>	<i>5:20.30</i>	<i>13.40</i>
<i>06.35</i>	<i>10.20</i>	<i>100</i>	<i>21.00</i>	<i>09.55</i>
<i>07.25</i>	<i>09.20</i>	<i>200</i>	<i>28.40</i>	<i>06.05</i>
<i>07.50</i>	<i>08.50</i>	<i>300</i>	<i>32.15</i>	<i>6:01.20</i>
<i>Marks end of</i>		<i>400</i>	<i>36.30</i>	<i>57.00</i>
<i>N 4083.</i>		<i>500</i>		
		<i>600</i>	<i>20</i>	<i>m</i>
		<i>700</i>		
		<i>800</i>		
		<i>900</i>		
		<i>1000</i>		
		<i>1100</i>		
		<i>1200</i>		
		<i>1300</i>		
		<i>1400</i>		
		<i>1500</i>		
		<i>1600</i>		
		<i>1700</i>		
		<i>1800</i>		
		<i>1900</i>		
		<i>2000</i>		
		<i>2100</i>		
		<i>2200</i>		
		<i>2300</i>		
		<i>2400</i>		

Puniawa Pt, S 30 15' E, 10 10'

SK
 10.5
 4

230
 23
 253

4310
 230
 4080

205

2500
 2600
 2700
 2800
 2900
 3000
 3100
 3200
 3300
 3400
 3500
 3600
 3700
 3800
 3900
 4000

SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25		Catch -		
50		Macrurus; melanostoma;		
100		5 sps mollusks; 2 sps crabs;		
200		3 munida. 2 sps shrimps;		
300		2 sps barnacles; swl of 5		
400		sps starfish; 2 sps worms;		
500		many holothurians, 1 sps-		
600				
700				
800				
900				
1000				

REMARKS:

Hutchinson

No. *D* 4085 Date *July 21st*

Sigsbee Machine. #1 Reel. *Nav.*

Turns *243* Cor. + *24* Depth *267 fms*

Shot or lead *36 lbs.*

Bottom *S. Sh.*

Bottom temperature *75° (?)*

No. of thermometer *98236* Cor. *-0.1*

Corrected temperature *74.9* } *N 23° E*

Air *81* Surface *76* Drift *1.0'*

Trawl or dredge *10' Blake 60th T. Night*

SOUNDING WIRE.		TURNS.	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
<i>6-15.20</i>	<i>23.20</i>	<i>0</i>	<i>6-31.40</i>	<i>28.30</i>
<i>16.05</i>	<i>22.15</i>	<i>100</i>	<i>36.55</i>	<i>24.45</i>
<i>17.05</i>	<i>21.10</i>	<i>200</i>	<i>40.45</i>	<i>20.20</i>
<i>18.30</i>	<i>20.45</i>	<i>243</i>	<i>44.00</i>	<i>15.30</i>
<i>Marked end of</i>		<i>400</i>	<i>49.00</i>	<i>7.10.05</i>
<i>D 4084</i>		<i>500</i>	<i>21</i>	<i>m</i>
		<i>600</i>		
		<i>700</i>		
<i>Surface Net</i>		<i>800</i>		
<i>6.55</i>	<i>7.09</i>	<i>900</i>		
		<i>1000</i>		
<i>1 haul</i>	<i>14^m</i>	<i>1100</i>		
		<i>1200</i>		
		<i>1300</i>		
		<i>1400</i>		
		<i>1500</i>		
		<i>1600</i>		
		<i>1700</i>		
		<i>1800</i>		
		<i>1900</i>		
		<i>2000</i>		
		<i>2100</i>		
		<i>2200</i>		
		<i>2300</i>		
		<i>2400</i>		

Puniawa Pt, 82° E., 10 2/10'

OK
H 310
243
243
24
267

H 310
243
4067
205
181
24

2500
2600
2700
2800
2900
3000
3100
3200
3300
3400
3500
3600
3700
3800
3900
4000

SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25	Slight breeze from E. N. E.			
50	Clear and pleasant,			
100	gentle swell			
200				
300	Surface net torn -			
400	surface net, many copepoda, pink			
500	+ blue; few stomatopod larvae;			
600	few red macrurus, few small			
700	fishes - no myctophum -			
800				
900	Bleke: many of 2 sp holothurians,			
1000	1 agnosta; Pench 2 sp. wachins;			

REMARKS:
few starfish, few ophurans, 1 crab,
few of 2 sp. shrimps, few munida.
2 puzoschales, many dentalia, few
pelecypods; argyripans, 1 peristodion
hians; many atherston; many hymn-
ocephalus contractans; few of 2 sp. of
macrurus; 1 squalus -

Hutchinson No. *4086* Date *July 21st*
Stacy Machine #1 Reel. *Navy*
 Turns *257* Cor. + *21* Depth *283 fms*
 Shot or lead *36 lbs*
 Bottom *S. Sh.*

Bottom temperature *144.8*No. of thermometer *98236* Cor. *-0.2*Corrected temperature *44.6* (JMN)Air *78* Surface *76* Drift *1 4/10'*Trawl or dredge *10' Blake, 60' Trawl Net*

SOUNDING WIRE.

DOWN.

UP.

TURNS.

DREDGE ROPE.

DOWN.

UP.

<i>7-31.30</i>	<i>38.10</i>	0	<i>7:42.30</i>	<i>8.45.20</i>
<i>32.15</i>	<i>37.05</i>	100	<i>48.10</i>	<i>37.10</i>
<i>33.05</i>	<i>36.05</i>	200	<i>52.10</i>	<i>33.40</i>
<i>33.40</i>	<i>35.25</i>	<i>257</i>	<i>55.40</i>	<i>29.10</i>
		300	<i>8.00.20</i>	<i>25.15</i>
<i>Marks up of</i>	<i>450</i>	400	<i>07.30</i>	<i>21.40</i>
<i>No 4085</i>		500		
<i>Surface Net</i>		600	<i>20 m</i>	
<i>7.46</i>	<i>8-23</i>	700		
		800		
<i>1-</i>	<i>36 m</i>	900		
		1000		
		1100		
		1200		
		1300		
		1400		
		1500		
		1600		
		1700		
		1800		
		1900		
		2000		
		2100		
		2200		
		2300		
		2400		

Uniwawa Point, South 11⁸/₁₀'

		2500	
		2600	
		2700	
		2800	
		2900	
		3000	
		3100	
		3200	
		3300	
		3400	
4310	205	3500	
257	179	3600	
4053	26	3700	
	257	3800	
	283	3900	
		4000	

11
1000
2 1/2

257
26
283

SERIAL TEMPERATURES

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25				
50				
100				
200				
300				
400				
500				
600				
700				
800				
900				
1000				

light breeze from ENE
 clear with pleasant
 gentle swell
 moonlight

swl hymenocephalus; 2 sps
 macrurus; 2 sps mollusks;
 swl dentalia; swl archin;
 2 starfish; 3 synapta; swl
 colonies ascidians; 1 pennatul-
 lid; swl holothurians;
 1 anemone -

REMARKS:

Surface net (torn) = few
 copepods; few stomatopod larvae;
 amphipods; exocoelous; shortfish;
 few other small fishes -

No. 4047 ⁵⁰⁷ Date 21 July 1902

Machine. Reel. Turns 280 Cor. + 28 Depth 308 fms

Shot or lead 26 4 Bottom fm. 94 438

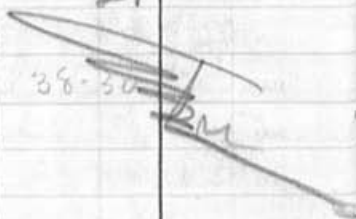
Bottom temperature No. of thermometer 98236 Cor. -0.2

Corrected temperature 43.6 Air 77 Surface 76 Drift 1 8/10

Trawl or dredge 10' Blake, 60' tail

SOUNDING WIRE.		TURNS.	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
8.45.30	9.5.30	0	8.55.20	10-01-
46.10	50.25	100	9.00.00	56.30
47.00	49.30	200	04.15	51.50
47.30	48.30	280	08.30	47.30
		400	13.00	43.20
		500	18.30	9.39.20
		600		
		700	21 ^m	
		800		
		900	38-30 ^m	
		1000		
		1100		
		1200		
		1300		
		1400		
		1500		
		1600		
		1700		
		1800		
		1900		
		2000		
		2100		
		2200		
		2300		
		2400		

Surface net
9:00 P 9:43 P M
1 haul - 43 ^m
bourse



N.E. Approach to Pailolo Channel - 21
 Mokuhooniki Islet, 88°50'45"W, 21 ²¹/₁₀

OK
 1000
 2

280
 28
 30

4310 20V

2500
 2600
 2700
 2800
 2900
 3000
 3100
 3200
 3300
 3400
 3500
 3600
 3700
 3800
 3900
 4000

SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25	Clear and pleasant			
50	Gentle breeze S.W.			
100	S.W.			
200	Mottled			
300	Faintly visible			
400				
500	Black:			
600	Many of 4 eps macurus;			
700	4 starfish; 2 eps urchins;			
800	anemone; ascidian; holothurian;			
900	several gastropods; squid; 1 worm-			
1000				

Surface - 3 fishes; 1 flounder.

REMARKS:

14

No. 1088 B Date 21 July 1902

Sigsbee Machine. 1 Reel. Tracy

Turns 278, Cor. + 28 Depth 306 fm

Shot or lead 36 lb

Bottom M. gy. s. H. H. O.

Bottom temperature

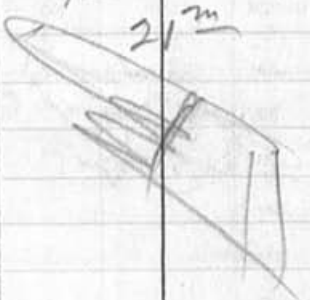
No. of thermometer 98236 Cor. -0.2

Corrected temperature 43.8 (N 140 W)

Air 76 Surface 75 Drift 1 1/10'

Trawl or dredge 10' Blake, 60" tall M.

SOUNDING WIRE.		TURNS.	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
10:05.30	10:15.10	0	10.18.40	11:24.00
06.20	10.00	100	23.15	20.00
07.00	09.50	200	27.00	16.00
07.30	08.30	278	34.50	11.20
		400	36.10	06.30
		500	10:39.30	11.00.30
		600		
		700		
10.20	01:10.00	800		
		900		
Haul	40 m	1000		
		1100		
		1200		
		1300		
		1400		
		1500		
		1600		
		1700		
		1800		
		1900		
		2000		
		2100		
		2200		
		2300		
		2400		



Mokuhooniki Det, 88° 30' W., 20° 10'

2500
2600
2700
2800
2900
3000
3100
3200
3300
3400
3500
3600
3700
3800
3900
4000

578
306
4310 201

SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25	Sky to cloudy, little			
50	breeze to 5 knots - moon -			
100	light - blue.			
200				
300	Bale = macrurus; coeloclyndus;			
400	Polysiprus; many hymenocephalus;			
500	1 pennatulid; 1 holothurian; swf			
600	starfish; swf. urchins; shrimps;			
700	few murex; gastropods;			
800	dentalium; barnacles on spine;			
900	1 worm; squid; compound			
1000	ascidian.			

REMARKS:

Surface net = 2 sp. fish -
1 a ghostfish -

Station
 No. 4089
 Machine. | Reel. Navy

Date 21 July 1907

Turns 270 Cor. + 27 Depth 297 m

Shot or lead 26 #7
 Bottom fine gy s 44'

Bottom temperature
 No. of thermometer 98236 Cor. -0.2

Corrected temperature 43.8 (X 140 W)
 Air 76 Surface 75 Drift 18'

Trawl or dredge 10' Blake 60' tow

SOUNDING WIRE.		TURNS.	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
11.28.10	11.33.15	0	11.36.50	12.42.-
29.00	32.50	100	43.20	38.-
29.40	31.50	200	48.00	34.-
11.30.10	31.00	270	52.00	30.-
		400	56.30	25.50
		500	12.01.30	12.21.30
		600		
		700		20 min.
		800		
11.40	12.21.30	900		
1 haul - 41 min.		1000		
		1100		
		1200		
		1300		
		1400		
		1500		
		1600		
		1700		
		1800		
		1900		
		2000		
		2100		
		2200		
		2300		
		2400		

Surface net

Reverse Work

Mokuhooniki Islet, 187° 16' W, 20° 3' 10" S

OK
KUB.
5/2

H310 20V

2500
2600
2700
2800
2900
3000
3100
3200
3300
3400
3500
3600
3700
3800
3900
4000

SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25	Kelp and seaweed Little breeze SW, to windward			
50				
100				
200	Blake = 5 sps fishes			
300				
400				
500				
600				
700				
800				
900				
1000				

REMARKS:

Am. No. 4090

No. *Δ. 4090* Date *22 July '02.*

Sigsbee Machine. 1 Reel. *Wm*

Turns *276* Cor. + *28* Depth *304 fms.*

Shot or lead *36 lbs.*

Bottom *FM M d*
Bottom temperature *44° -*

No. of thermometer *98236.* Cor. *-0.2*

Corrected temperature *43.8* (*N 140° W*)

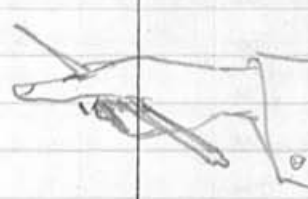
Air *76° -* Surface *76° -* Drift *1 1/10'*

Trawl or dredge *10' Blake, 60 lbs tail wt.*

Am SOUNDING WIRE.		TURNS.	Am DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
<i>12.50.30</i>	<i>12.57.30</i>	0	<i>1.03. -</i>	<i>2.06.10</i>
<i>51.20</i>	<i>56.30</i>	100	<i>07.30</i>	<i>2.02.45</i>
<i>52.15</i>	<i>55.30</i>	200	<i>12. -</i>	<i>58.50</i>
<i>12.53.00</i>	<i>12.54.30</i>	<i>276</i>	<i>16. -</i>	<i>54.40</i>
		300		
		400	<i>22. -</i>	<i>50.15</i>
		500	<i>1.25. -</i>	<i>1.45.35</i>
		600		
		700	<i>20 min.</i>	
		800		
		900		
		1000		
		1100		
		1200		
		1300		
		1400		
<i>1.03.30 - 1.48.10</i>		1500		
		1600		
<i>1 haul - 44 min.</i>		1700		
		1800		
		1900		
		2000		
		2100		
		2200		
		2300		
		2400		

Also marks end of Δ. 14089.

Surface Net



Mokuhooniki Det. 871° 15' W., 20 1/10'

	2500	
	2600	
OK	2700	
JLB	2800	
	2900	
	3000	
	3100	
	3200	
	3300	
	3400	
	3500	
	3600	
276	3700	
28	3800	
<u>304</u>	3900	
	4000	

SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25	Clear and cloudy, and pleasant.			
50	Brilliant moon. Light E.N.E.			
100	breeze. Smooth sea. A			
200	gentle squall with drizzling			
300	rain at end of station.			
400				
500				
600				
700				
800				
900				
1000				

REMARKS:

Dr. course (P.S.C.) North.

Am. Kil

No. *Δ. 4091* Date *22 July '02.*

Sigsbee Machine. / Reel. *Flaby*

Turns *280* Cor. + *28* Depth *308 fms*

Shot or lead *36 Lbs.*

Bottom *gm 94 d*

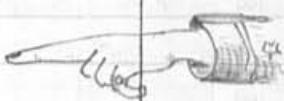
Bottom temperature *44.0*

No. of thermometer *98736.* Cor. *-0.2*

Corrected temperature *43.8* (*N 140 W*)

Air *77.0* - Surface *76.0* - Drift *18/10*

Trawl or dredge *10' Blake, 60 lbs tail weight.*

<i>Am</i> SOUNDING WIRE.		TURNS.	<i>Am</i> DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
<i>2. 26.35</i>	<i>2. 33.05</i>	0	<i>2. 42. -</i>	<i>3. 39.40</i>
<i>27.30</i>	<i>32.05</i>	100	<i>45.15</i>	<i>34.50</i>
<i>28.30</i>	<i>31.05</i>	200	<i>49.30</i>	<i>30.05</i>
<i>2. 29.20</i>	<i>2. 30.05</i>	280 300	<i>53. -</i>	<i>25.40</i>
		400	<i>57.05</i>	<i>21.45</i>
		450	<i>2. 59.20</i>	<i>3. 19.15</i>
		500		
		600	<i>20 min.</i>	
<i>Also mark end of Δ. 4090.</i>		700		
		800		
		900		
		1000		
<i>Surface Net.</i>		1100		
<i>2. 43.50</i>	<i>3. 19.45</i>	1200		
		1300		
<i>1 haul - 36 min.</i>		1400		
		1500		
		1600		
		1700		
		1800		
		1900		
		2000		
		2100		
		2200		
		2300		
		2400		

Mokuhooniki Islet, $866^{\circ}15'N$; $21^{\circ}16'$

OK
 1007
 29

2500
 2600
 2700
 2800
 2900
 3000
 3100
 3200
 3300
 3400
 3500
 3600
 3700
 3800
 3900
 4000

4310 205
 280
 28
308

SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25	Clear and cloudy, passing shower			
50	and gentle squalls. Moonlight.			
100	Light to gentle breeze from E. N. E.			
200	Smooth sea.			
300				
400				
500				
600				
700				
800				
900				
1000				

REMARKS:

Dr. Course (P.S.C.), North.

Autolimon

No. *Dr. 4092*. Date *23 July 02*.

Sigsbee Machine. 1 Reel. *Thompson*.

Turns *278* Cor. + *28* Depth *306 fms.*

Shot or lead *36* Lbs.

Bottom *gy s*


Bottom temperature *48*

No. of thermometer *98236*. Cor. *-0.2*

Corrected temperature *43.8* (*N 140 W*)

Air *76*° - Surface *76*° - Drift *1 1/10'*

Trawl or dredge *10' Blake, 60 lbs. tail weight.*

SOUNDING WIRE.		TURNS.	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
<i>4-05.05</i>	<i>12.05</i>	0	<i>4-18.20</i>	<i>17.30</i>
<i>05.50</i>	<i>11.00</i>	100	<i>22.40</i>	<i>13.05</i>
<i>06.30</i>	<i>09.55</i>	200	<i>26.25</i>	<i>08.45</i>
<i>07.20</i>	<i>09.00</i>	<i>278</i> 300	<i>30.00</i>	<i>04.20</i>
		400	<i>33.30</i>	<i>5.00.30</i>
		<i>452</i> 500	<i>35.15</i>	<i>58.30</i>
		600		
<i>Also marks end of</i>		700	<i>23 min</i>	
<i>Dr. 4091.</i>		800		
		900		
		1000		
		1100		
<i>Surface Net.</i>		1200		
<i>4.21.20</i>	<i>4.55</i>	1300		
		1400		
<i>I haul 34 min</i>		1500		
		1600		
		1700		
		1800		
		1900		
		2000		
		2100		
		2200		
		2300		
		2400		

Mokuhooniki Islet, $861^{\circ}45'N.$, $21^{\circ}10'$

OK
HCO.
2

278
29
306

	2500	
	2600	
	2700	
	2800	
	2900	
	3000	
	3100	
	3200	
	3300	
	3400	
	3500	
	3600	
	3700	
	3800	
	3900	
	4000	

SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25	Overcast to Cloudy Sight breeze E. N. E. Sea smooth			
50				
100				
200				
300				
400				
500				
600				
700				
800				
900				
1000				

REMARKS:

Dr. Course (P.S.C.), Jr.

Stetson

No. *4600* Date *22 July '02*
Sigsbee Machine. / Reel. *Navy*
 Turns *280* Cor. + *28* Depth *308 fms.*
 Shot or lead *36 lbs.*
 Bottom *gy. brk. sh. for*
 Bottom temperature *44*
 No. of thermometer *98236* Cor. *-0.2*
 Corrected temperature *43.8*
 Air *76* Surface *76* Drift
 Trawl or dredge

SOUNDING WIRE.		TURNS.	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
<i>5- 21.20</i>	<i>27.20</i>	0		
<i>22.00</i>	<i>26.15</i>	100		
<i>22.45</i>	<i>25.10</i>	200		
<i>23.30</i>	<i>24.15</i>	280 300		
		400		
		500		
		600		
		700		
<i>also marks end</i>		800		
<i>of</i>		900		
<i>Dr. 4092.</i>		1000		
		1100		
		1200		
<i>Surface det.</i>		1300		
		1400		
		1500		
		1600		
		1700		
		1800		
		1900		
		2000		
		2100		
		2200		
		2300		
		2400		

Mokuhooniki Slet. 857°30' N., 22⁸/₁₀'

OK
HOB
/h

H310 205

2500
2600
2700
2800
2900
3000
3100
3200
3300
3400
3500
3600
3700
3800
3900
4000

SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25				
50				
100				
200				
300				
400				
500				
600				
700				
800				
900				
1000				

REMARKS:

Pat Log 67.8
5

Hutchinson
No. *H 4093*

Date *July 22*

Sigsbee Machine # *1* Reel *Star*

Turns *1078* Cor. + *93* Depth *1171 fms*

Shot or lead *36 lbs.*

Bottom *fm gy s. f. R.*

Bottom temperature *36*

No. of thermometer *98336* Cor. *-0*

Corrected temperature *36.0* (Jr 51 W)

Air *75* Surface *76* Drift *2 5/10'*

Trawl or dredge *5 1/2 Blake*

SOUNDING WIRE.		TURNS.	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
<i>6:04.50</i>	<i>29.45</i>		<i>6:37.05</i>	<i>9.18.15</i>
<i>05.30</i>	<i>28.35</i>	<i>100</i>	<i>40.35</i>	<i>11.45</i>
<i>06.25</i>	<i>27.30</i>	<i>200</i>	<i>43.50</i>	<i>11.10</i>
<i>07.15</i>	<i>26.20</i>	<i>300</i>	<i>47.10</i>	<i>07.30</i>
<i>08.00</i>	<i>25.15</i>	<i>400</i>	<i>50.35</i>	<i>04.00</i>
<i>09.05</i>	<i>24 =</i>	<i>500</i>	<i>54.20</i>	<i>9.00.30</i>
<i>10.05</i>	<i>22.50</i>	<i>600</i>	<i>56.50</i>	<i>57.00</i>
<i>11 =</i>	<i>21.35</i>	<i>700</i>	<i>59.50</i>	<i>53.45</i>
<i>12.00</i>	<i>20.20</i>	<i>800</i>	<i>7:02.30</i>	<i>50.30</i>
<i>13.10</i>	<i>19 =</i>	<i>900</i>	<i>05.10</i>	<i>47.30</i>
<i>14.10</i>	<i>17.45</i>	<i>1000</i>	<i>08 =</i>	<i>44.00</i>
<i>15.10</i>	<i>16.30</i>	<i>1078</i>	<i>11.20</i>	<i>40.30</i>
		<i>1100</i>	<i>14.45</i>	<i>37.00</i>
		<i>1200</i>	<i>18.00</i>	<i>33.00</i>
		<i>1300</i>	<i>21 =</i>	<i>29.25</i>
		<i>1400</i>	<i>24.20</i>	<i>26.00</i>
		<i>1500</i>	<i>26.55</i>	<i>21.50</i>
		<i>1600</i>	<i>29.30</i>	<i>18.00</i>
		<i>1700</i>	<i>32.50</i>	<i>13.45</i>
		<i>1800</i>	<i>37.10</i>	<i>08.30</i>
		<i>1900</i>	<i>42.25</i>	<i>8:02.30</i>
		<i>2000</i>		
		<i>2100</i>		
		<i>2200</i>		
		<i>2300</i>		
		<i>2400</i>		

Mokuhooniki det. 852°30'N, 24⁶/₁₀'

OK
JCS
/y

2500
2600
2700
2800
2900
3000
3100
3200
3300
3400
3500
3600
3700
3800
3900
4000

4310
1078

205
112

3232

93
1078
1171

SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25				
50				
100				
200				
300				
400				
500				
600				
700				
800				
900				
1000				

REMARKS:

Net badly torn.

571
Stacy

No. *4601* Date *22 July 1902*

Sigsbee Machine. *1* Reel. *Stacy*

Turns *1452* Cor. + *120* Depth *1572 MS*

Shot or lead *60 #*

Bottom *fm. gy. S. for. 68°* Bottom temperature *(?)*

No. of thermometer *98236* Cor. *-0.2*

Corrected temperature *67.8* *(?)*

Air *78* Surface *77* Drift

Trawl or dredge

SOUNDING WIRE.		TURNS.	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
<i>9:23.00</i>	<i>9:54.30</i>	0		
<i>23.55</i>	<i>53.30</i>	100		
<i>24.45</i>	<i>52.30</i>	200		
<i>25.30</i>	<i>51.30</i>	300		
<i>26.15</i>	<i>50.30</i>	400		
<i>27.10</i>	<i>49.30</i>	500		
<i>28.10</i>	<i>48.20</i>	600		
<i>29.10</i>	<i>47.15</i>	700		
<i>30.10</i>	<i>46.15</i>	800		
<i>31.10</i>	<i>45.10</i>	900		
<i>32.10</i>	<i>44.05</i>	1000		
<i>33.15</i>	<i>43.05</i>	1100		
<i>34.20</i>	<i>42.00</i>	1200		
<i>35.25</i>	<i>40.30</i>	1300		
<i>36.35</i>	<i>39.00</i>	1400		
<i>9:37.10</i>	<i>9:37.02</i>	<i>1452</i>		
		1500		
		1600		
		1700		
		1800		
		1900		
		2000		
		2100		
		2200		
		2300		
		2400		

*This marks
end of
457 4893*

Mokuhooniki det. 047° 30' W., 23⁴/₁₀'

OK
2100

2500
2600
2700
2800
2900
3000
3100
3200
3300
3400
3500
3600
3700
3800
3900
4000

1310 200
1452 85
2808 120
1462
1572

SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25				
50				
100				
200				
300				
400				
500				
600				
700				
800				
900				
1000				

REMARKS:

No. *4094* Date *22 July 1902*
 Machine. *Sigsbee* Reel. *Drum*

Turns *692* Cor. + *61* Depth *753 fms.*
 Shot or lead *60*

Bottom *h. No. p. s. 382*
 Bottom temperature

No. of thermometer *98236* Cor. *-0*
 Corrected temperature *38.0*

Air *80* Surface *76* Drift *3.0*
 Trawl or dredge *52' Blake with 1 M*

SOUNDING WIRE.		TURNS.	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
<i>10.30.15</i>	<i>41.20</i>	0	<i>10.48.00</i>	<i>12.51.30</i>
<i>31.05</i>	<i>44.20</i>	100	<i>52.15</i>	<i>48.00</i>
<i>32.00</i>	<i>45.10</i>	200	<i>56.10</i>	<i>44.30</i>
<i>32.50</i>	<i>47.10</i>	300	<i>11.00.00</i>	<i>40.45</i>
<i>33.50</i>	<i>41.00</i>	400	<i>03.50</i>	<i>37.-</i>
<i>34.45</i>	<i>39.40</i>	500	<i>07.45</i>	<i>33.45</i>
<i>35.40</i>	<i>38.40</i>	600	<i>11.00</i>	<i>30.-</i>
<i>36.30</i>	<i>37.15</i>	<i>692</i>	<i>14.10</i>	<i>26.10</i>
		800	<i>18.20</i>	<i>21.50</i>
		900	<i>22.40</i>	<i>17.40</i>
		1000	<i>26.30</i>	<i>13.10</i>
		1100	<i>30.40</i>	<i>08.50</i>
		1200	<i>35.15</i>	<i>12.03.25</i>
		1300		<i>58.20</i>
		<i>1350</i>		<i>11.55.50</i>
		1400		
		1500		
		1600	<i>20 min.</i>	
		1700		
		1800		
		1900		
		2000		
		2100		
		2200		
		2300		
		2400		

Mokuhooniki det. 851° W., 20 7/10'

OK
 1100.
 2/2

4310
 692
 3618

205
 144
 61
 692
 753

2500
 2600
 2700
 2800
 2900
 3000
 3100
 3200
 3300
 3400
 3500
 3600
 3700
 3800
 3900
 4000

SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25				
50				
100				
200				
300				
400				
500				
600				
700				
800				
900				
1000				

REMARKS:

Frame slightly wrenched; heavy load of mud in net.

No. *Hy. 4602*. Date *22 July, '02*.*Sigsbee* Machine. *1* Reel. *Navy*.Turns *723* Cor. + *64* Depth *787* fms.Shot or lead *35* Lbs.Bottom *fm. S. Glob. G. M.*Bottom temperature *37.5*No. of thermometer *98236*. Cor. *0*Corrected temperature *37.5*Air *78°* - Surface *76°* - Drift

Trawl or dredge

P.M. SOUNDING WIRE.		TURNS.	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
<i>12.55. -</i>	<i>1.10.15</i>	0		
<i>55.50</i>	<i>09.15</i>	100		
<i>56.35</i>	<i>08.20</i>	200		
<i>57.25</i>	<i>07.30</i>	300		
<i>58.15</i>	<i>06.20</i>	400		
<i>59.15</i>	<i>05.20</i>	500		
<i>1.00.20</i>	<i>04.15</i>	600		
<i>01.25</i>	<i>03.10</i>	700		
<i>1.01.40</i>	<i>1.03. -</i>	723		
		800		
		900		
<i>also marks end</i>		1000		
<i>of</i>		1100		
<i>Dr. 4094.</i>		1200		
		1300		
		1400		
		1500		
		1600		
		1700		
		1800		
		1900		
		2000		
		2100		
		2200		
		2300		
		2400		

Mokuhoonki det, 844° N., 19 1/10°

OK
H.W.
1/2

2500
2600
2700
2800
2900
3000
3100
3200
3300
3400
3500
3600
3700
3800
3900
4000

4310
728

358.7

205
140

64
723

787

SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25				
50				
100				
200				
300				
400				
500				
600				
700				
800				
900				
1000				

REMARKS:

507
 April

7

P.L. = 77.8

No. Δ . 4095. Date 22 July, '02.

Sigsbee Machine. 1 Reel. Navy.

Turns 264 Cor. + 26 Depth 290 fms.

Shot or lead 36 lbs.

Bottom M. M. fm. S. Glob.

Bottom temperature 44.1

No. of thermometer 98236. Cor. -0.2

Corrected temperature 43.9

Air 79.° - Surface 76.° - Drift $\left\{ \begin{array}{l} N 22. W \\ 1 \frac{9}{10}' \end{array} \right.$

Trawl or dredge 8' Tanner, and Apron.

P.M. SOUNDING WIRE.		TURNS.	P.M. DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
2.19.50	2.26.-	0	2.33.-	3.45.00
20.30	25.-	100	37-40	41-10
21.15	24.-	200	41-40	36-40
2. 21.40	2. 23.10	264	46-15	31-50
		-300	50-30	27-00
		400	57-40	23-00
		500	59-20	3-20-20
		575	3-48-50	
		600		
		700		
		800	21	<u>21</u>
		900		
		1000		
		1100		
		1200		
		1300		
		1400		
		1500		
		1600		
		1700		
		1800		
		1900		
		2000		
		2100		
		2200		
		2300		
		2400		

Mokuhooniki Idld. S 61° N., 10 ⁶/₁₀"

OC
SIB.
12

2500
2600
2700
2800
2900
3000
3100
3200
3300
3400
3500
3600
3700
3800
3900
4000

4510

205

264
26
290

SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25				
50				
100				
200				
300				
400				
500				
600				
700				
800				
900				
1000				

REMARKS:

Hutchinson
007

No. *4603* Date *July 22nd*

Sigsbee Machine. # *1* Reel. *Stacy*

Turns *260* Cor. + *26* Depth *286 fms*

Shot or lead *36*

Bottom *fine S. For*

Bottom temperature *44.1°*

No. of thermometer *98236* Cor. *-0.2*

Corrected temperature *43.9*

Air *80* Surface *77* Drift

Trawl or dredge

SOUNDING WIRE.		TURNS.	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
<i>50.55</i>	<i>57.00</i>	0		
<i>51.35</i>	<i>55.55</i>	100		
<i>52.15</i>	<i>54.55</i>	200		
<i>52.50</i>	<i>54.10</i>	300		
<i>Marker end of</i>		400		
<i>W 4095</i>		500		
		600		
		700		
		800		
		900		
		1000		
		1100		
		1200		
		1300		
		1400		
		1500		
		1600		
		1700		
		1800		
		1900		
		2000		
		2100		
		2200		
		2300		
		2400		

Mokuhoniki Det, S54°W, 14.0'

OK
H.C.B.

4310 205

2500
2600
2700
2800
2900
3000
3100
3200
3300
3400
3500
3600
3700
3800
3900
4000

SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25				
50				
100				
200				
300				
400				
500				
600				
700				
800				
900				
1000				

REMARKS:

507. *Whitchinson* (8) *Pat Log 85.6*
 No. *52* 4096 Date *July 22* ⁵
Sigsbee Machine #1 Reel. *Havy*
 Turns 247 Cor. + 25 Depth 272 fms
 Shot or lead 36 lbs
 Bottom *gn qm d*
 Bottom temperature 45.5
 No. of thermometer 98236 Cor. -0.2
 Corrected temperature 45.3 (N12°E)
 Air 78 Surface 77 Drift 1 5/10
 Trawl or dredge 10' Blake 60' Sail No.

SOUNDING WIRE.		TURNS.	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
5-14.15	19.50	0	5-25.30	25.10
14.45	18.40	100	30.10	21.30
15.30	17.25	200	34.05	17.50
16 =	16.55	300	37.50	13.45
		400	41.15	09.50
		450	43.10	
		500		
		475	59.00	6:06.50
		600		
		700		
		800	24	
		900		
		1000		
		1100		
		1200		
		1300		
		1400		
		1500		
		1600		
		1700		
		1800		
		1900		
		2000		
		2100		
		2200		
		2300		
		2400		

Mokuhooniki Islet, S 77° 30' W, 7.0'

2500
2600
2700
2800
2900
3000
3100
3200
3300
3400
3500
3600
3700
3800
3900
4000

SL
H.S.
/

207
25
27

4310 205

SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25				
50				
100				
200				
300				
400				
500				
600				
700				
800				
900				
1000				

REMARKS:

No. *5* 4097 Date *July 22*
 Sigsbee Machine. # *1175* Reel. *Navy*
 Turns *260* Cor. + *26* Depth *286 fms*
 Shot or lead *36#*
 Bottom *Blk. S. gy. S*
 Bottom temperature *44.4*
 No. of thermometer *78236* Cor. *-0.2*
 Corrected temperature *44.2* (*N 17.5*)
 Air *78* Surface *77* Drift *1 1/2'*
 Trawl or dredge *10' Blake 60# J. W.*

SOUNDING WIRE.		TURNS.	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
<i>6-27.45</i>	<i>33.20</i>	<i>0</i>	<i>6-41.50</i>	<i>8.01.30</i>
<i>28.25</i>	<i>32.15</i>	<i>100</i>	<i>46.30</i>	<i>57 =</i>
<i>29.05</i>	<i>31.10</i>	<i>200</i>	<i>50.50</i>	<i>52.30</i>
<i>29.35</i>	<i>30.30</i>	<i>260</i>	<i>54.45</i>	<i>48.10</i>
		<i>300</i>	<i>58.50</i>	<i>43.40</i>
		<i>400</i>	<i>7-03.10</i>	<i>39.35</i>
<i>Marked end of</i>	<i>15 4096</i>	<i>550</i>	<i>* 09 =</i>	
		<i>600</i>	<i>23.10</i>	<i>34.10</i>
		<i>650</i>	<i>28.00</i>	<i>31.50</i>
		<i>700</i>		
		<i>900</i>		
		<i>1000</i>	<i>23 Min</i>	
		<i>1100</i>		
		<i>1200</i>	<i>* supposed to be</i>	
		<i>1300</i>	<i>on bottom</i>	
		<i>1400</i>		
		<i>1500</i>		
		<i>1600</i>		
		<i>1700</i>		
		<i>1800</i>		
		<i>1900</i>		
		<i>2000</i>		
		<i>2100</i>		
		<i>2200</i>		
		<i>2300</i>		
		<i>2400</i>		

Mokuhooniki Delta, 867° 15' N, 8.0'

OK
HOB
1/2

4310

205

2500
2600
2700
2800
2900
3000
3100
3200
3300
3400
3500
3600
3700
3800
3900
4000

SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25				
50				
100				
200				
300				
400				
500				
600				
700				
800				
900				
1000				

REMARKS:

Course etc. (psi)

5071
Hutchinson
 No. *Hy 4604* Date *July 22nd*
 Sigsbee Machine. # *Reel. King.*
 Turns *260* Cor. + *26* Depth *286 f*
 Shot or lead *36 lbs.*
 Bottom *gm 94 440*
 Bottom temperature
 No. of thermometer *98236* Cor. *-0.2*
 Corrected temperature *43.8*
 Air *77* Surface *77* Drift
 Trawl or dredge

SOUNDING WIRE.		TURNS.	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
<i>8.02.15</i>	<i>08.40</i>	0		
<i>03.00</i>	<i>07.35</i>	100		
<i>03.55</i>	<i>06.35</i>	200		
<i>04.35</i>	<i>05.50</i>	300		
		400		
		500		
		600		
		700		
		800		
		900		
		1000		
		1100		
		1200		
		1300		
		1400		
		1500		
		1600		
		1700		
		1800		
		1900		
		2000		
		2100		
		2200		
		2300		
		2400		

Mokuohoniki Islet, 86° 30' N., 8⁷/₁₀'

OK
HUB
is

4310 205

2500
2600
2700
2800
2900
3000
3100
3200
3300
3400
3500
3600
3700
3800
3900
4000

SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25				
50				
100				
200				
300				
400				
500				
600				
700				
800				
900				
1000				

REMARKS:

Stacy

11.1

No. 4098 Date 23 July 1902

Sigsbee Machine. 1 Reel. Turns 86 Cor. + 36 #9 Depth 95 fms.

Shot or lead Bottom Co. S. 65 fms.

Bottom temperature No. of thermometer 98236 Cor. -0.2

Corrected temperature 64.8 (N 21° W. Air 78 Surface 76 Drift 2.0'

Trawl or dredge 10' Blake

SOUNDING WIRE.		TURNS.	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
19:57.00	01.10	86	10:04.50	10.46.00
57.40	10:00.20	85	08.30	11.10
		200	13.00	27.15
		225	15.45	
		265	24.00	10.35.00
		400		
		500		20 M
		600		
		700		
		800		
		900		
		1000		
		1100		
		1200		
		1300		
		1400		
		1500		
		1600		
		1700		
		1800		
		1900		
		2000		
		2100		
		2200		
		2300		
		2400		

North Coast of Maui Id -
 Puniawa Point, S 52° 30' E., 6 5/10!

OK
 1208
 1/2

H310. 200.

2500
 2600
 2700
 2800
 2900
 3000
 3100
 3200
 3300
 3400
 3500
 3600
 3700
 3800
 3900
 4000

SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25				
50				
100				
200				
300				
400				
500				
600				
700				
800				
900				
1000				

REMARKS:

Not slightly low.

Stadley

No. 4099 Date 23 July '07

Machine. 1 Reel. Turns 138 Cor. + 14 Depth 152 fms

Shot or lead 36 # Bottom m.s. sh. fm

Bottom temperature No. of thermometer 98236 Cor. -0.3 Corrected temperature 60.7° (885°W)

Air 78 Surface 76 Drift 1 1/10 Trawl or dredge 8 ft. Tanner.

SOUNDING WIRE.		TURNS.	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
10.47.30	10.51.15	0	11.05.30	47.15
48.30	50.50	100	09.15	42.00
10.48.50	10.50.10	138	12.45	38.00
		220	14.00	
		270	19.10	11.34.30
		400		
		500	20 m	
		600		
		700		
		800		
		900		
		1000		
		1100		
		1200		
		1300		
		1400		
		1500		
		1600		
		1700		
		1800		
		1900		
		2000		
		2100		
		2200		
		2300		
		2400		

Marks up of 4099

Puniawa Point, S.E., 8³/₁₀'

OK
H.C.F.
i

138
14
152

2500
2600
2700
2800
2900
3000
3100
3200
3300
3400
3500
3600
3700
3800
3900
4000

SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25				
50				
100				
200				
300				
400				
500				
600				
700				
800				
900				
1000				

REMARKS:

507.
Arikil

No. *H. 4605*. Date *23 July '02*.

Sigsbee Machine. 1 Reel. *Plan*

Turns *139* Cor. + *14* Depth *153 fms*

Shot or lead *36 Lbs.*

Bottom *gy S. For.*

Bottom temperature *60.9*

No. of thermometer *98236*. Cor. *-0.3*

Corrected temperature *60.6*

Air *78°* - Surface *76°* - Drift

~~Frawl or dredge~~

SOUNDING WIRE.		TURNS.	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
<i>11.48.55</i>	<i>11.52.50</i>	0		
<i>49.55</i>	<i>51.50</i>	100		
<i>11.50.15</i>	<i>11.51.25</i>	<i>139</i>		
		200		
		300		
		400		
<i>also marks and</i>	<i>of</i>	500		
<i>Dr. 4099.</i>		600		
		700		
		800		
		900		
		1000		
		1100		
		1200		
		1300		
		1400		
		1500		
		1600		
		1700		
		1800		
		1900		
		2000		
		2100		
		2200		
		2300		
		*2400		

Puniawa Point, 853° E., 9⁵/₁₀'

OK
178
2

139
14
153

2500
2600
2700
2800
2900
3000
3100
3200
3300
3400
3500
3600
3700
3800
3900
4000

SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25				
50				
100				
200				
300				
400				
500				
600				
700				
800				
900				
1000				

REMARKS:

P.L. = 33.4

No. Δ -4100. Date 23 July '02.

Sigsbee Machine. / Reel. Navy.

Turns 118 Cor. + 12 Depth 130 fms.

Shot or lead 36 lbs.

Bottom co s. sh. for.

Bottom temperature 61.3

No. of thermometer 98236. Cor. -0.3

Corrected temperature 61.0 (N)° E

Air 80° - Surface 76° - Drift } 1 2/10'

Trawl or dredge 8 Hemp Tangles on Frame.

SOUNDING WIRE.		TURNS.	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
1.51.55	1.55.05	0	1.57.45	2.43.20
52.40	54.05	100	2.04.10	39.00
1.52.50	1.53.55	118	08.30	35.00
		200	2.18.45	2.32.45
		250		
		300		
		400	24 min.	
		500		
		600		
		700		
		800		
		900		
		1000		
		1100		
		1200		
		1300		
		1400		
		1500		
		1600		
		1700		
		1800		
		1900		
		2000		
		2100		
		2200		
		2300		
		2400		

Pailolo Channel
 Mokuhooniki Idt. N 35° W. 3 1/10'

OK
 JTB
 7

2500
 2600
 2700
 2800
 2900
 3000
 3100
 3200
 3300
 3400
 3500
 3600
 3700
 3800
 3900
 4000

118
 12
 120

SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25				
50				
100				
200				
300				
400				
500				
600				
700				
800				
900				
1000				

REMARKS:

April

No. *Hy. 4606.* Date *23 July '02.*

Sigsbee Machine. *1* Reel. *Manly*

Turns *137* Cor. + *14* Depth *151 fms.*

Shot or lead *36 Lbs.*

Bottom *co S. Sh. Fr.*

Bottom temperature *59.2*

No. of thermometer *98236.* Cor. *-0.3*

Corrected temperature *58.9*

Air *79°* - Surface *76°* - Drift

Trawl or dredge

P.M. SOUNDING WIRE.		TURNS.	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
<i>2. 45.00</i>	<i>2. 49.20</i>	0		
<i>46.40</i>	<i>48.20</i>	100		
<i>2. 47.00</i>	<i>2. 48.05</i>	137		
		200		
		300		
<i>Also marks end of Dr. 4/100.</i>		400		
		500		
		600		
		700		
		800		
		900		
		1000		
		1100		
		1200		
		1300		
		1400		
		1500		
		1600		
		1700		
		1800		
		1900		
		2000		
		2100		
		2200		
		2300		
		2400		

Mokuhooniki Slt, N57°30' N., 2⁵/₁₀'

OK
J.A.B.
2

137
14
151

2500
2600
2700
2800
2900
3000
3100
3200
3300
3400
3500
3600
3700
3800
3900
4000

SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25				
50				
100				
200				
300				
400				
500				
600				
700				
800				
900				
1000				

REMARKS:

P.L. = 28.4

W. H. Hutton

No. 4101. Date 23 July 02

Cyclo Machine. Reel. *Wray*
Turns 130 Cor. + 13 Depth 143 fms

Shot or lead 36 lbs.

Bottom co S. Sh. For.

Bottom temperature 60. -

No. of thermometer 98236. Cor. -0.3

Corrected temperature 59.7 (8890W)

Air 79.° - Surface 78.° - Drift 1 1/10'

Trawl or dredge 10' Blake, 60 lbs. tailweight

P.M. SOUNDING WIRE.		TURNS.	P.M. DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
3.38.30	3.42.20	0	3.48.00	41.30
39.00	41.25	100	52.15	37.05
3.39.10	3.41.00	130	56.30	34.10
		200	59.00	29.30
		250	4.01.25	
		300	06.00	26.40
		350		
		600		
		700	20 Min	
		800		
		900		
		1000		
		1100		
		1200		
		1300		
		1400		
		1500		
		1600		
		1700		
		1800		
		1900		
		2000		
		2100		
		2200		
		2300		
		2400		

Mokuhooniki Islet, N 80 30' E, 4 ⁸/₁₆'

OK
J.P.P.
21

130
13

143

	2500	
	2600	
	2700	
	2800	
	2900	
	3000	
	3100	
	3200	
	3300	
	3400	
	3500	
	3600	
	3700	
	3800	
	3900	
	4000	

SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25				
50				
100				
200				
300				
400				
500				
600				
700				
800				
900				
1000				

REMARKS:
Course S. N. x N.

Hutchinson

No.

N 4102

Date

July 23rd

Sigsbee Machine #

Reel

Navy

Turns *111* Cor. + *11*

Depth *122 fms*

Shot or lead *36 lbs*

Bottom *gy s. Fm.*

Bottom temperature *Therm. did not trip*

No. of thermometer *98236* Cor.

Corrected temperature

(55.1° N)

Air *78*

Surface *79*

Drift

13.10

Trawl or dredge

10' Blake, 60' J. N.

SOUNDING WIRE.

DREDGE ROPE.

DOWN.

UP.

TURNS.

DOWN.

UP.

PM
4-42.30

45.30

0

PM
4-56.50

41.30

43.20

44.20

100

5-01.50

37.40

43.25

44.20

~~*111*~~
200

05.05

33.50

*Marks end of
N 4101*

300

09.30

5:30.00

400

20 m

500

600

700

800

900

1000

1100

1200

1300

1400

1500

1600

1700

1800

1900

2000

2100

2200

2300

2400

Mokuhooniki Islet, $29^{\circ}E$, $5\frac{6}{10}'$

OK
 J.V.S.
 2

2500
 2600
 2700
 2800
 2900
 3000
 3100
 3200
 3300
 3400
 3500
 3600
 3700
 3800
 3900
 4000

SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25				
50				
100				
200				
300				
400				
500				
600				
700				
800				
900				
1000				

REMARKS:

Course S.W. (psc)

Butcher

No. *5* 4103 Date *July 23rd*

Sigsbee Machine. #1 Reel. *Harvey*

Turns *120* Cor. + *12* Depth *132 fms*

Shot or lead *36 lbs*

Bottom *gy S.*

Bottom temperature *61.90*

No. of thermometer *98236* Cor. *-0.2*

Corrected temperature *61.7*

Air *77* Surface *78* Drift *1 5/10'*

Trawl or dredge *10' Blake, 60 lbs. W.*

SOUNDING WIRE.		TURNS.	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
<i>5-43.20</i>	<i>46.50</i>	0	<i>5-54.10</i>	<i>40.05</i>
<i>44.15</i>	<i>45.30</i>	100	<i>58.30</i>	<i>36.20</i>
<i>44.30</i>	<i>45.10</i>	<i>120</i>	<i>6-02.40</i>	<i>32.20</i>
<i>Marks end of</i>		300	<i>06.05</i>	<i>27.10</i>
<i>5-4102</i>		400	<i>21 Min</i>	
		500		
		600		
		700		
		800		
		900		
		1000		
		1100		
		1200		
		1300		
		1400		
		1500		
		1600		
		1700		
		1800		
		1900		
		2000		
		2100		
		2200		
		2300		
		2400		

Mokuhoonaki Islet, N32°45' E, 6 ⁷/₁₀'

512
H.R.
—

2500
2600
2700
2800
2900
3000
3100
3200
3300
3400
3500
3600
3700
3800
3900
4000

SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25				
50				
100				
200				
300				
400				
500				
600				
700				
800				
900				
1000				

REMARKS:

Course S.W. p.s.c

No. *5* 4104 Date *July 23⁵*

Sigsbee Machine # *1* Reel *Navy.*

Turns *128* Cor. + *13* Depth *141 fms*

Shot or lead *36 lbs*

Bottom *fine gy S. Fr*

Bottom temperature *61.10*

No. of thermometer *98236* Cor. *-0.3*

Corrected temperature *60.8*

Air *77* Surface *78* Drift *850 W. 1 1/2'*

Trawl or dredge *10' Blake, 60' J. K.*

SOUNDING WIRE.

DOWN.

UP.

TURNS.

DREDGE ROPE.

DOWN.

UP.

6:42.40

46.05

0

6:56.10

37.10

43.20

44.45

100

7:01.10

33.20

43.35

44.36

128

05.10

29.25

200

07.30

27.05

400

500

20 min

600

700

800

900

1000

1100

1200

1300

1400

1500

1600

1700

1800

1900

2000

2100

2200

2300

2400

Mokuhonoki Islet, N 38°15' E, 8 ¹/₁₀'

	2500		
	2600		
	2700		
	2800		
	2900		
	3000		
	3100		
	3200		
	3300		
	3400		
	3500		
	3600		
	3700		
	3800		
	3900		
	4000		

OK
H.O.
12
13
14

SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25				
50				
100				
200				
300				
400				
500				
600				
700				
800				
900				
1000				

REMARKS:

Course N. S. N. (Spec 1)

Stetson

No. *44607* Date *July 23rd*
Sigsbee Machine. # *11* Reel. *Navy.*

Turns *112* Cor. + *11* Depth *123 f*

Shot or lead *36 lbs.*

Bottom *fine gy. S. For.*

Bottom temperature *61.0*

No. of thermometer *98236* Cor. *-0.3*

Corrected temperature *60.7*

Air *77* Surface *77* Drift

Trawl or dredge

SOUNDING WIRE.		TURNS.	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
<i>7-39.20</i>	<i>42.30</i>	<i>0</i>		
<i>40.05</i>	<i>41.15</i>	<i>100</i>		
<i>40.15</i>	<i>41.10</i>	<i>112</i>		
		<i>200</i>		
		<i>300</i>		
		<i>400</i>		
		<i>500</i>		
		<i>600</i>		
		<i>700</i>		
		<i>800</i>		
		<i>900</i>		
		<i>1000</i>		
		<i>1100</i>		
		<i>1200</i>		
		<i>1300</i>		
		<i>1400</i>		
		<i>1500</i>		
		<i>1600</i>		
		<i>1700</i>		
		<i>1800</i>		
		<i>1900</i>		
		<i>2000</i>		
		<i>2100</i>		
		<i>2200</i>		
		<i>2300</i>		
		<i>2400</i>		

Mokuhooniki Delat, N 42° 30' E, 9.0'

OK
JUL
3

2500
2600
2700
2800
2900
3000
3100
3200
3300
3400
3500
3600
3700
3800
3900
4000

SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25				
50				
100				
200				
300				
400				
500				
600				
700				
800				
900				
1000				

REMARKS:

No. 4105 Date 24 July 02
 Machine. 1 Reel. Navy
 Turns 285 Cor. + 29 Depth 314
 Shot or lead 35

Bottom fine co s. For. 449
 Bottom temperature
 No. of thermometer 98236 Cor. -0.2
 Corrected temperature 43.8
 Air 76 Surface 76 Drift 1 3/10
 Trawl or dredge 8' Tanner and apron

SOUNDING WIRE.		TURNS.	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
5:09.40	5:16.29	0	5:30.00	6:24.30
10.20	15.15	100	34.15	25.30
11.15	14.10	200	38.10	21.30
11.45	13.15	285	41.50	17.30
		400	45.30	14.30
		500	49.40	10.50
		600	56.30	6:10.00
		700		
		800		
		900		
		1000		
		1100		
		1200		
		1300		
		1400		
		1500		
		1600		
		1700		
		1800		
		1900		
		2000		
		2100		
		2200		
		2300		
		2400		

207M

Kaiwi Channel -
 Lee-o Ka Laau Light, 845°30' E, 10⁶/₁₀'

285

4310 205
 285 176

 4025 29

 270
 514

2500
 2600
 2700
 2800
 2900
 3000
 3100
 3200
 3300
 3400
 3500
 3600
 3700
 3800
 3900
 4000

SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25				
50				
100				
200				
300				
400				
500				
600				
700				
800				
900				
1000				

REMARKS:

Station 1106
 No. 1106
 1106

Date 24 July 1902

Machine. Reel. 11009

Turns 304 Cor. + 31 Depth 335 fms.

Shot or lead 36 #

Bottom fine s.

Bottom temperature 42.8

No. of thermometer 98236 Cor. -0.2

Corrected temperature 42.6 (N 20° E)

Air 76 Surface 76 Drift 1 1/10'

Trawl or dredge 8' Tanner with apron

SOUNDING WIRE.

DREDGE ROPE.

DOWN.

UP.

TURNS.

DOWN.

UP.

DOWN.	UP.	TURNS.	DOWN.	UP.
6.32.10	6.40.20	0	6.46.00	7.52.00
33.00	39.20	100	48.50	49.00
33.30	37.10	200	52.40	44.00
34.40	35.50	300	57.30	40.00
34.50		304	7.00.00	36.00
		400		32.30
		500	03.00	
		600	07.30	7.27.00
		700		
		800	20	
		900		
		1000		
		1100		
		1200		
		1300		
		1400		
		1500		
		1600		
		1700		
		1800		
		1900		
		2000		
		2100		
		2200		
		2300		
		2400		

Lauro Ka Laaw Light. $84^{\circ}15' E, 11^{\frac{5}{10}}$

OK
HOB.
7

2500
2600
2700
2800
2900
3000
3100
3200
3300
3400
3500
3600
3700
3800
3900
4000

4310 205
304 174
4006 31

SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25				
50				
100				
200				
300				
400				
500				
600				
700				
800				
900				
1000				

REMARKS:

Tracy
Dr. 4107

No. *Dr. 4107*. Date *24 July 1902*

Sigsbee Machine. 1 Reel. *Tracy*

Turns *319* Cor. + *31* Depth *350 fms.*

Shot or lead *36 lbs.*

Bottom *co S. For.*

Bottom temperature *41.6*

No. of thermometer *98236* Cor. *-0*

Corrected temperature *41.6* (*N 13° E*,
1.0')

Air *78°* - Surface *76°* - Drift

Trawl or dredge *10' Blake, 60 lbs tail weight.*

SOUNDING WIRE.

DOWN. UP.

TURNS.

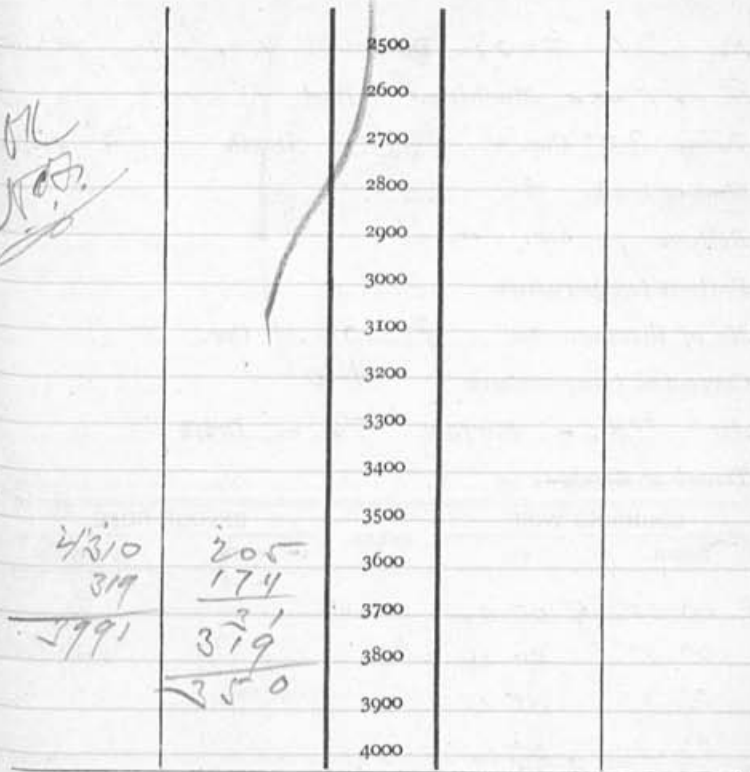
DREDGE ROPE.

DOWN. UP.

SOUNDING WIRE.		TURNS.	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
<i>J. 53.40</i>	<i>8.01.25</i>	<i>0</i>	<i>8.05.-</i>	<i>8.57.-</i>
<i>54.15</i>	<i>8.00.30</i>	<i>100</i>	<i>09.40</i>	<i>53.15</i>
<i>55.-</i>	<i>59.20</i>	<i>200</i>	<i>13.10</i>	<i>49.40</i>
<i>55.50</i>	<i>58.10</i>	<i>300</i>	<i>16.30</i>	<i>46.05</i>
<i>J. 56.05</i>	<i>J. 58.00</i>	<i>319</i>	<i>20.15</i>	<i>42.15</i>
		<i>400</i>	<i>24.30</i>	<i>39.10</i>
		<i>500</i>		
<i>also marks end</i>		<i>600</i>	<i>8.28.-</i>	<i>8.33.40</i>
<i>of</i>		<i>700</i>		
<i>Dr. 4106.</i>		<i>800</i>	<i>6</i>	<i>Min.</i>
		<i>900</i>		
		<i>1000</i>		
		<i>1100</i>		
		<i>1200</i>		
		<i>1300</i>		
		<i>1400</i>		
		<i>1500</i>		
		<i>1600</i>		
		<i>1700</i>		
		<i>1800</i>		
		<i>1900</i>		
		<i>2000</i>		
		<i>2100</i>		
		<i>2200</i>		
		<i>2300</i>		
		<i>2400</i>		

Lae-o Ka Laaw Light, S 34° 30' E, 12³/₁₀'

ML
 1107.
 20



SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25				
50				
100				
200				
300				
400				
500				
600				
700				
800				
900				
1000				

REMARKS:

on
 Drill

No. *Hy. 4608.* Date *24 July, '02.*

Sigsbee Machine / Reel, Navy.

Turns *323* Cor. + *32* Depth *355 fms.*

Shot or lead *36* Lbs.

Bottom *Co. Fr. S.*

Bottom temperature *41. -*

No. of thermometer *98236.* Cor. *- 0*

Corrected temperature *41.0*

Air *79° -* Surface *76° -* Drift

Trawl or dredge

SOUNDING WIRE.		TURNS.	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
<i>9.00.05</i>	<i>9.07.20</i>	0		
<i>00.45</i>	<i>06.10</i>	100		
<i>01.25</i>	<i>05.15</i>	200		
<i>02.30</i>	<i>04.10</i>	300		
<i>9.02.40</i>	<i>9.03.50</i>	<i>323</i>		
		400		
		500		
<i>also marks end</i>		600		
<i>of</i>		700		
<i>Dr. 4107.</i>		800		
		900		
		1000		
		1100		
		1200		
		1300		
		1400		
		1500		
		1600		
		1700		
		1800		
		1900		
		2000		
		2100		
		2200		
		2300		
		2400		

Ka Lae-o Ka Laau Light, ~~813~~ S 31° E, 13.0'

OK
 H.A.
 2

2500
 2600
 2700
 2800
 2900
 3000
 3100
 3200
 3300
 3400
 3500
 3600
 3700
 3800
 3900
 4000

4310	205
322	178
<u>5987</u>	<u>32</u>
	323
	<u>355</u>

SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25				
50				
100				
200				
300				
400				
500				
600				
700				
800				
900				
1000				

REMARKS:

P.L. = 71.7

507.
Anvil

No. D. 4108 Date 24 July, '02.

Sigsbee Machine. #1 Reel. Navy.

Turns 375 Cor. + 36 Depth 411 fms.

Shot or lead 36 Lbs.

Bottom Co. For. S.

Bottom temperature 40.4

No. of thermometer 98236 Cor. -0

Corrected temperature 40.4

(N 51° W)

Air 79° - Surface 76° - Drift 1 6/10'

Trawl or dredge 8' Tanner with apron.

SOUNDING WIRE.		TURNS.	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
9.40.25	9.48.10	0	9.52.30	11.00.00
41.05	47.10	100	56.10	56.00
42.55	46.10	200	59.30	51.30
43.40	45.15	300	10.03.-	47.30
9 44.-	9.44.30	375	06.-	41.35
		400		
		500	09.30	37.10
		550	15.30	
		600	10.22.-	10.32.45
		700		
		800	20 min.	
		900		
		1000		
		1100		
		1200		
		1300		
		1400		
		1500		
		1600		
		1700		
		1800		
		1900		
		2000		
		2100		
		2200		
		2300		
		2400		

Sae-oka Raaw Light, 821° E, 15 5/10'

OK
 100
 2

2500
 2600
 2700
 2800
 2900
 3000
 3100
 3200
 3300
 3400
 3500
 3600
 3700
 3800
 3900
 4000

~~4310
 375
 3935~~ ~~205
 169
 338
 375
 418~~

SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25				
50				
100				
200				
300				
400				
500				
600				
700				
800				
900				
1000				

REMARKS:

Am. Fish. Com. Hutchinson

No. *Dr. 4109*. Date *24 July '02*.
Sigsbee Machine. 1 Reel. *Tracy*.
Turns *403* Cor. + *39* Depth *442 fms.*
Shot or lead *36 Lbs.*
Bottom *Co. Fr. S.*

Bottom temperature *40.4*
No. of thermometer *98236* Cor. *-0*
Corrected temperature *40.4* (*N 28° W*)
Air *79°* - Surface *76°* - Drift *1 7/10'*
Trawl or dredge *8' Tanner with apron.*

A.M. SOUNDING WIRE.		TURNS.	A.M. DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
<i>11.02.30</i>	<i>11.11.25</i>	<i>0</i>	<i>11.15.30</i>	<i>30.15</i>
<i>03.10</i>	<i>10.20</i>	<i>100</i>	<i>19.20</i>	<i>26.20</i>
<i>03.55</i>	<i>09.20</i>	<i>200</i>	<i>23.00</i>	<i>22.00</i>
<i>04.45</i>	<i>08.20</i>	<i>300</i>	<i>26.55</i>	<i>17.35</i>
<i>11.05.40</i>	<i>11.07.15</i>	<i>400</i>	<i>31.00</i>	<i>13.30</i>
		<i>403</i>	<i>34.35</i>	<i>09.20</i>
		<i>500</i>	<i>38.40</i>	<i>04.45</i>
		<i>600</i>	<i>41.40</i>	<i>12.01.15</i>
		<i>680</i>		
		<i>700</i>		
		<i>800</i>		
		<i>900</i>		
		<i>1000</i>		
		<i>1100</i>		
		<i>1200</i>		
		<i>1300</i>		
		<i>1400</i>		
		<i>1500</i>		
		<i>1600</i>		
		<i>1700</i>		
		<i>1800</i>		
		<i>1900</i>		
		<i>2000</i>		
		<i>2100</i>		
		<i>2200</i>		
		<i>2300</i>		
		<i>2400</i>		

also marks end of Dr. 4108.

20 min

Lee-o Ka Laawlight, S 23°45' E, 17.0'

OK
HOF.
3

$$\begin{array}{r} 4310 \\ \underline{403} \\ 3907 \end{array} \quad \begin{array}{r} - 2'05 \\ \underline{166} \\ 39 \\ \underline{405} \\ 442 \end{array}$$

11.31.40

63^{hrs} - 34. -

75^{hrs} - 36.30