
RECORDS
OF THE
DREDGING AND OTHER COLLECTING STATIONS OF THE
U. S. FISH COMMISSION STEAMER ALBATROSS
IN
1901 and 1902.

List of abbreviations employed in these records.

Abbreviation.	Meaning.	Abbreviation.	Meaning.	Abbreviation.	Meaning.
alg	alga.	mi	miles.	Alb. Blk	Albatross pattern Blake beam trawl.
bk	black.	min	mineral.	4' Blk., 5½' Blk., etc.	4-foot Blake beam trawl, 5½-foot Blake beam trawl, etc.
botm	bottom.	mts	minutes.	Blk. Dr	Blake deep-sea dredge.
br	brown.	nod	nodules.	Boat dredge.	Boat dredge.
brk	broken.	oz	ooze.	Ch. Tg's	Chain tangles.
bu	blue.	p	pebbles.	D. N	Dip net.
c	clay.	part	particles.	Dr	Dredge.
choc	chocolate color.	posn	position.	E. L.	Electric light.
co	coral.	pter	pteropods.	Gl. N.	Gill net.
corln	coralline.	pum	pumice.	Hp.	Hemp.
crs	coarse.	r	rock.	L. B. T.	Large beam trawl.
dd	dead.	rad	radiolaria.	Op. Int	Open intermediate tow net.
dk	dark.	rd	red.	R	Reef collecting or reef collections.
estd	estimated.	rky	rocky.	S	Shore collecting or shore collections.
fms	fathoms.	rot	rotten.	S. B. T	Small beam trawl.
fne	fine.	s	sand.	Sh. Dr	Ship dredge.
for	foraminifera.	sft	soft.	Sig. S. M	Sigsbee sounding machine.
frag	fragments.	sh	shells.	Surf. N.	Surface tow net.
g	gravel.	slat	slate color.	Swbs	Swabs.
glob	globigerina.	sml	small.	Td. Int	Townsend intermediate tow net.
gn	green.	sp	specks.	Tg's	Tangles.
gy	gray.	st	stones.	8' Tnr., 10' Tnr., etc.	8-foot Tanner beam trawl; 10-foot Tanner beam trawl, etc.
h or hr	hour.	stbd	starboard.	Tnr. Int.	Tanner intermediate tow net.
hrd	hard.	stf	stiff.	Tnr. S. M.	Tanner sounding machine.
lav	lava.	stk	sticky.		
lge	large.	vol	volcanic.		
lt	light.	wh	white.		
m	mud.	yl	yellow.		
mar.g	manganese.				

RECORDS OF THE DREDGING AND OTHER COLLECTING
STATIONS OF THE U. S. FISH COMMISSION STEAMER
ALBATROSS IN 1901 AND 1902.

In 1902 the dredging, trawling, and other collecting operations of the *Albatross* were all embraced within the limits of a cruise to the Hawaiian Islands in pursuance of investigations concerning the fishes and fisheries of that archipelago. In 1901 but four stations were occupied, all on the west coast of the United States.

In the following records all stations where apparatus was employed for the purpose of collecting natural-history specimens are given dredging numbers in chronological order, and each piece of apparatus used at each station is given a separate line.

The time of a sounding is the time when the plummet strikes the bottom by the ship's local time.

The time of a net or dredge haul is the hour when such apparatus is in place or position and the actual towing or dredging commenced.

In the case of open intermediate nets the time occupied in hoisting to the surface is also noted.

Where two surface nets were used the actual time that both nets were in the water together is given as if but one piece of gear were employed.

The remarks show how many single hauls of a surface net were made at each station.

Almost invariably the dredging stations were located by soundings at each end of the line, and a majority of the dredgings were on lines of continuous development.

The drift is the direction and distance traveled over the ground in the case of bottom gear, and through the water—after getting in position—in the case of other nets. No account is taken of the distance traveled by the ship while nets are being lowered or hoisted.

“Tanner with brace” is an ordinary Tanner beam-trawl frame with a T bar joining the upper sides of the runners near the heels, thus increasing the rigidity of the whole frame. This modification was suggested by Mr. A. B. Alexander.

The “Albatross-Blake beam-trawl frame” embraces a number of improvements on the old Blake frame, suggested by Commander Chauncey Thomas, U. S. Navy, and Mr. H. C. Fassett, U. S. Fish Commission.

Record of the dredging and other collecting stations of the Albatross in 1901 and 1902.

Station No.	Date.	Time of day.	Position.		Temperatures.			Depth.	Kind of bot. tom.	Instrument used.	Trawl.			Remarks.	
			Lat. N.	Long. W.	Air.	Surf. face.	Bot. tom.				Depth.	Length.	Direction.		Dis- tance.
	1901.		o / " " " "		° F.	° F.	° F.	Fms.			Fms.	Hr. M.			
D. 3787	Apr. 25	11.26 a.m.	(39 48 20 124 47 15) Punta Gorda, N. (36° E., 33 1/2 miles.)		50	50	42.0	754	fine. s. gn. m.	8' Tnr			S. 65° W.	14	
D. 3788	Apr. 27	8.36 a.m.	(43 01 00 125 12 30) Cape Blanco Light, S. 68° E., (30 miles.)		46	50	35.9	1,064	gn. m.	8' Tnr			East	2	
D. 3789	Apr. 30	9.23 a.m.	(45 21 45 124 52 30) Tatoosh Island Light, N. 73° E., (5.7 miles.)		53	51		115	crs. gy. s. g.	8' Tnr			N. 49° E.	14	
D. 3790	Apr. 30	11.10 a.m.	(48 20 15 124 59 00) Tatoosh Island Light, N. 72° E., (10.4 miles.)		58	52		122	gn. m. st.	20' Special.			N. 35° E.	14	Frame badly damaged.
	1902.		Erden Bank and vicinity, North Pacific Ocean, eastern part.												
D. 3791	Mar. 14	(1.48 p.m.) 2.50 p.m. 4.56 p.m.)	(33 08 45 130 41 00)		57	60		2,629	h. br. m.	(Sig. S. M. Surf. N Op. Int)	Surface. 100	0 30 W 30 W		0.7 7	Ran off edge cable to Lining of Net torn
D. 3792	Mar. 15	(8.44 a.m.) 9.50 a.m.) 10.20 a.m.)	(32 54 00 132 23 45)		57	60	38.5	1,059	bk. mang. s. for. r.	(Sig. S. M. Surf. N 8' Tnr)	Surface. Bottom.	47 N. 39° E. 35 N. 49° E.		.9 1	Hauled 2 times. Lost frame; net wrecked.
D. 3793	Mar. 15	(4.27 p.m.) 4.52 p.m.) 5.12 p.m.)	(32 52 55 132 34 10)		62	61	39.0	545-412	mang. s. for. r.	(Sig. S. M. Surf. N 10 hp. Tgls.)	Surface. Bottom.	40 N. 30° E. 23 N. 30° E.		1 5	Hauled 3 times. Lost tangles and frame.
D. 3794	Mar. 16	(11.26 a.m.) 11.53 a.m.) 12.35 p.m.)	(32 52 00 132 34 15)		68	61	38.0	781	for. mang. sp. r.	(Sig. S. M. Surf. N Sh. Dr.; 2 Hp. Swbs.)	Surface. Bottom.	7 N. 32° W. 5 N. 32° W.		.2 1	Lost dredge and swabs.
D. 3795	Mar. 16	(3.06 p.m.) 3.44 p.m.)	(32 54 00 132 33 40)		59	61	38.7	583	for. bk. sp. r.	(Sig. S. M. 2 Hp. Swbs.)	Bottom.	13 N. 33° W.		.3	Set cod trawl.

		Erlen Bank to Kaiwi Channel, Hawaiian Ids.												
D. 3796	Mar. 17	9.00 a. m.	32 00 00	134 30 00	66	62	(Did not sound.)	Surf. N	Surface.	45	S. 62° W.	1.5	Hauled 3 times.	
		9.00 a. m.			66	62		Op. Int	4	45	S. 62° W.	1.5	Do.	
D. 3797	Mar. 17	7.20 p. m.	31 55 00	136 00 00	60	63	(Did not sound.)	Surf. N	Surface.	25	S. 62° W.	1	Do.	
		7.20 p. m.			60	63		Op. Int	4	20	S. 62° W.	.9	Hauled 2 times.	
D. 3798	Mar. 18	9.05 a. m.	30 08 05	138 00 00	60	63	(Did not sound.)	Surf. N	Surface.	25	S. 62° W.	1	Do.	
		9.05 a. m.			60	63		Op. Int	4	25	S. 62° W.	1	Do.	
D. 3799	Mar. 18	7.20 p. m.	29 22 00	139 31 00	63	65	(Did not sound.)	Surf. N	Surface.	31	S. 62° W.	1.3	Hauled 4 times.	
		7.43 p. m.			63	65		Op. Int	100	20	S. 62° W.	.5	10 min. coming up; 1 haul.	
		9.21 a. m.			63	66		Td. Int	100	6	S. 62° W.	.3	5 min. coming up; 1 haul; failure.	
D. 3800	Mar. 19	9.18 a. m.	28 23 00	141 41 05	63	66	(Did not sound.)	Surf. N	Surface.	12	S. 62° W.	.3	1 haul.	
		9.40 a. m.			63	66		do	Surface.	24	N. 1° E.	.7	2 hauls.	
		9.59 a. m.			63	66		Op. Int	100	18	N. 1° E.	.5	9 min. coming up; 1 haul.	
		11.48 a. m.			69	66		2 Op. Int. set tandem.	100	22	N. 11° W.	.3	Do.	
D. 3801	Mar. 19	12.35 p. m.	28 31 00	141 47 00	70	66	(Did not sound.)	do	100 to 120	24	N. 11° W.	.5	6 min. coming up; 1 haul.	
		9.07 a. m.			71	68		do	150	31	N. 11° W.	.8	12 min. coming up; 1 haul; upper net wrecked.	
D. 3802	Mar. 20	10.04 a. m.	27 04 15	144 18 30	71	68	(Did not sound.)	Op. Int	4	15	N. 11° W.	.5	1 haul.	
D. 3803	Mar. 21	9.20 a. m.	25 39 45	147 41 45	69	70	(Did not sound.)	do	50	19	N. 68° W.	.5	4 min. coming up; 1 haul.	
D. 3804	Mar. 21	7.20 p. m.	24 58 42	149 11 00	67	69	(Did not sound.)	Surf. N	Surface.	30	N. 46° W.	1	3 hauls.	
D. 3805	Mar. 22	7.23 p. m.			67	69	(Did not sound.)	Op. Int	50	28	N. 46° W.	.7	5 min. coming up; 1 haul.	
		8.29 a. m.	24 08 15	150 51 00	69	70		do	50	30	N. 23° E.	.8	4 min. coming up; 1 haul.	
D. 3806	Mar. 22	7.16 p. m.	23 25 36	152 24 30	70	71	(Did not sound.)	do	50	20	N. 16° E.	.5	5 min. coming up; 1 haul.	
		7.47 p. m.			70	71		do	25	20	N. 16° E.	.5	2 min. coming up; 1 haul.	
D. 3807	Mar. 23	8.44 a. m.	22 43 15	154 17 30	70	72	(Did not sound.)	Surf. N	Surface to 10 ft.	30	S. 55° W.	1	3 hauls.	
		8.47 a. m.			70	72		Op. Int	50	20	S. 55° W.	.5	5 min. coming up; 1 haul.	
D. 3808	Mar. 23	7.30 p. m.	22 10 00	155 35 45	70	73	(Did not sound.)	Surf. N	Surface.	30	S. 55° W.	1	3 hauls.	
		7.33 p. m.			70	73		Op. Int	50	30	S. 55° W.	.8	5 min. coming up; 1 haul.	
		South coast of Oahu Island.												
D. 3809	Mar. 27	2.36 p. m.	Honolulu Light		72	75	125	fine.co.s. bk.sp.	Tnr. S.M.					
		2.36 p. m.	N. 28°, E. 2°		72	75			Surf. N	Surface.	28	N. 77° E.	.7	2 hauls.
		2.51 p. m.			72	75	125-51	fine.co.s. bk.sp.	8' Tnr.; 2 Hp. Swbs.	Bottom.	15	N. 77° E.	.5	
D. 3810	Mar. 27	3.38 p. m.	Honolulu Light		72	75	47.7	211	fine.co.s.	Tnr. S.M.				
		3.40 p. m.	N. 2°, E. 2.4°		72	75			Surf. N	Surface.	22	E.	.7	Do.
		3.52 p. m.			72	75	47.7	211-53	fine.co.s.	8' Tnr.; Sh. Dr.; 2 Hp. Swbs.	Bottom.	20	E.	.5
D. 3811	Mar. 27	4.52 p. m.	Honolulu Light		72	74	70.5	238	co.s.r.	Tnr. S.M.				
		4.59 p. m.	N. 4°, W. 3.9°		72	74			Surf. N	Surface.	27	N. 39° E.	1	Do.
		5.13 p. m.			72	74		238-52	co.s.r.	8' Tnr.; 2 Hp. Swbs.	Bottom.	15	N. 39° E.	1.3	Frame broken; net badly torn.
D. 3812	Mar. 27	7.30 p. m.	Diamond Head Lt., S. 63°, E. 1.3°		72	74	61	co.co.s.	E. L., D. N.	Surface.	1	63		Night anchorage.

U. S. GEOLOGICAL SURVEY

Record of the dredging and other collecting stations of the Albatross in 1902—Continued.

Station No.	Date.	Time of day.	Position.	Temperatures.				Depth.	Kind of bot- tom.	Instrument used.	Trawl.		Drift.		Remarks.
				Air.	Sur- face.	Bot- tom.	Fms.				Depth.	Length	Direction.	Dis- tance.	
			South coast of Oahu Island—C'd.	° F.	° F.	° F.	Fms.				Fms.	Hr. M.			
D. 3813	Mar. 28	7.03 a. m.	Diamond Head Light, N. 76°, E. 2.2'.	72	74	41.5	264	co. s. lav. sp. sh.	Tnr. S. M						
		7.07 a. m.		72	74			co. s. lav. sp. sh.	Surf. N	Surface.	0	32	S. 83° E...	0.7	3 hauls.
		7.27 a. m.		72	74	41.5	264-183	co. s. lav. sp. sh.	8' Tnr.; 2 Hp. Swbs.	Bottom.	20		S. 83° E...	.3	
D. 3814	Mar. 28	8.30 a. m.	Diamond Head Light, N.E. 1.7'.	72	74	46.0	284	co. s. sh. st.	Tnr. S. M					2 hauls.	
		8.52 a. m.		72	74			co. s. sh. st.	8' Tnr.	Surface.	21		S. 82° E...		.7
		9.00 a. m.		72	74	46.0	284-42	co. s. sh. st.	8' Tnr.	Bottom.	21		S. 82° E...		.5
		10.11 a. m.		73	75	43.8	312	crs. co. s. brk. sh.	Tnr. S. M						
D. 3815	Mar. 28	10.33 a. m.	Diamond Head Light, N. 139°, W. 3.2'.	73	75			crs. co. s. brk. sh.	Surf. N	Surface.	18		N. 39° E...	.5	Do.
		11.04 a. m.		73	75	43.8	312-228	crs. co. s. brk. sh.	8' Tnr.	Bottom.	21		N. 39° E...	.7	
D. 3816	Mar. 28	11.57 a. m.	Diamond Head Light, N. 70°, W. 5.3'.	77	76	74.0?	228	fne. co. s. co. part. r.	Tnr. S. M					Lost 25 fms. dredge cable, 8' Tanner beam trawl, frame and net complete, 200- pound dredging sinker, 3 tail weights, bridle, shack- les, clips, float, etc.	
		12.22 p. m.		77	76	74.0?	228-320	fne. co. s. co. part. r.	8' Tnr.	Bottom.	12		N. 70° E...		.5
D. 3817	Mar. 28	1.12 p. m.	Diamond Head Lt., N. 77°, W. 8.4'.	76	76	73.5?	320	crs. lav. co. s. sh.	Tnr. S. M						
		1.46 p. m.		76	76	73.5?			5½' Blk.	Bottom.	30		N. 76° E...		.7
		9.19 a. m.		73	74	44.3	293	fne. co. s. bk. sp.	Sig. S. M						
D. 3818	Mar. 31	9.20 a. m.	Diamond Head Lt., N. 59°, E. 4.3'.	73	74			fne. co. s. bk. sp.	Surf. N	Surface.	33		N. 52° E...	.5	2 hauls.
		9.44 a. m.		73	74	44.3	293-295	fne. co. s. bk. sp.	5½' Blk.	Bottom.	21		N. 52° E...	.3	
			South coast of Mo- loka'i Island.												
D. 3819	Mar. 31	2.12 p. m.	Lae-o Ka Laau Lt., S. 46°, E. 5.4'.	79	75	73.0	70	co. s. co. r.	Sig. S. M						
		2.30 p. m.		79	75	73.0	70-99	co. s. co. r.	Sh. Dr.	Bottom.	10		N. 41° E...		.3
		3.13 p. m.		79	75	72.0	65	fne. co. s. brk. sh.	Sig. S. M						
D. 3820	Mar. 31	3.28 p. m.	Lae-o Ka Laau Lt., S. 54°, E. 5'.	79	75	72.0	65-121	fne. co. s. brk. sh.	8' Tnr.	Bottom.	15		N. 1° W...	.5	Water haul.

D. 3821	Mar. 31	7.10 p. m.	Lae-o Ka Laau Lt., N. 69°, W. 2.8'.	76	76	.....	6	co. s.	E. L., D. N.	Surface.	1	20	.....	Night anchorage. Set lobster pot, used hand lines.	
		7.46 a. m.		76	76	76.1	45	fne. gy. s. brk. sh.	Sig. S. M.						
D. 3822	Apr. 1	8.00 a. m.	Lae-o Ka Laau Lt., N. 37°, W. 4.9'.	76	76	76.1	45-78	fne. gy. s. brk. sh.	8' Tnr.	Bottom.	20	S. 6° W.	.....	4	
		8.05 a. m.		76	76	.....			Surf. N.	Surface.	20	S. 6° W.	.....	4	2 hauls.
		8.35 a. m.		76	75	69.0	78	fne. s. p.	Sig. S. M.						Took series of temperatures.
D. 3823	Apr. 1	8.49 a. m.	Lae-o Ka Laau Light, N. 34° W., 5.1'.	76	75	.....			Surf. N.	Surface.	10	S. 40° E.	.....	2	1 haul.
		9.13 a. m.		76	75	69.0	78-222	fne. s. p.	8' Tnr.; Sh. Dr.; 2 Hp.	Bottom.	12	S. 40° E.	.....	3	
		9.45 a. m.		77	75	49.5	222	co. r. brk. sh.	Sig. S. M.						Took series of temperatures.
D. 3824	Apr. 1	10.05 a. m.	Lae-o Ka Laau Light, N. 35° W., 6.1'.	77	75	.....			Surf. N.	Surface.	11	S. 66° E.	.....	3	1 haul.
		10.30 a. m.		77	75	49.5	222-498	co. r. brk. sh.	8' Tnr.; Sh. Dr.; 2 Hp.	Bottom.	20	S. 66° E.	.....	5	
		11.28 a. m.	Lae-o Ka Laau Lt., N. 43° W. 8'.	78	75	62.0?	498	gy. m. s.	Sig. S. M.						
D. 3825	Apr. 1	11.46 a. m.		78	75	.....			Op. Int.		75				
		12.08 p. m.	Lae-o Ka Laau Light, N. 46° W., 9.2'.	74	76	41.5	430	gy. m. co. r.	Sig. S. M.						
D. 3826	Apr. 1	1.00 p. m.		74	76	41.5	430-371	gy. m. co. r.	8' Tnr.; Sh. Dr.; 2 Hp.	Bottom.	9	S. 29° E.	.....	1	Net badly torn; frame bent.
		2.09 p. m.	Lae-o Ka Laau Light, N. 44° 30', W. 10.3'.	77	76	42.1	371	lt. gy. br. m.	Sig. S. M.						
D. 3827	Apr. 1	2.43 p. m.		77	76	42.1	371-319	lt. gy. br. m.	5 1/2' Blk.; Sh. Dr.	Bottom.	3	S. 68° E.	.....	1	Net badly torn.
		3.42 p. m.	Lae-o Ka Laau Light, N. 46° W., 11'.	76	76	43.8	319	brk. sh. g.	Sig. S. M.						
D. 3828	Apr. 1	4.13 p. m.		76	76	43.8	319-281	brk. sh. g.	6 Hp. Tgls.	Bottom.	13	S. 80° E.	.....	7	
		7.40 p. m.		73	75	.....			E. L., D. N.	Surface.	1	40	.....		Night anchorage.
		8.10 p. m.		73	75	.....			Surf. N.	Surface.	1	10	(?)	2	Towed alongshore from boats; several hauls.
D. 3829	Apr. 1	7.00 a. m.	Avalu Point, Lani- naid, South I.	.....	.....	.....	20	hrd. s.	R. and S. coll.		6				Shore and reef collections given same station number.
D. 3830	Apr. 2	8.49 a. m.	Lae-o Ka Laau Light, N. 54° 30', W. 13'.	76	75	45.2	272	lt. br. m.	Sig. S. M.						
		9.12 a. m.		76	75	45.2	272-261	lt. br. m.	6 Hp. Tgls.	Bottom.	13	S. 1° E.	.....	7	Water haul; no signs of gear having been on bottom.
		9.46 a. m.	Lae-o Ka Laau Light, N. 46° W., 13.8'.	74	75	45.1	261	br. m. co. s. r. co.	Sig. S. M.						
D. 3831	Apr. 2	10.12 a. m.		74	75	45.1	261-178	br. m. co. s. r. co.	5 1/2' Blk.	Bottom.	23	S. 46° E.	.....	5	Frame lost; net wrecked.
		2.32 p. m.	Lae-o Ka Laau Light, N. 69° 30', W. 14.5'.	77	76	.....	153	br. m. s.	Sig. S. M.						
D. 3832	Apr. 2	2.54 p. m.		77	76	.....	153-142	br. m. s.	8' Tnr.	Bottom.	46	N. 76° E.	.....	7	
		3.59 p. m.	Lae-o Ka Laau Light, N. 72° W., 15.8'.	75	76	63.0	142	s. p. brk. sh. r.	Sig. S. M.						
D. 3833	Apr. 2	4.25 p. m.		75	76	.....			Surf. N.	Surface.	10	N. 11° E.	.....	1	1 haul.
		4.41 p. m.		75	76	63.0	142-88	s. p. brk. sh. r.	8' Tnr.; Sh. Dr.	Bottom.	20	N. 11° E.	.....	2	Lost ship's dredge; 8' Tnr. frame broken; net wrecked.

Record of the dredging and other collecting stations of the Albatross in 1902—Continued.

Station No.	Date.	Time of day.	Position.	Temperatures.				Depth.	Kind of bot-tom.	Instrument used.	Trawl.		Drift.		Remarks.
				Air.	Sur-face.	Bot-tom.					Depth.	Length.	Direction.	Dis-tance.	
	1902.		South coast of Mo-lokai Id.—C'ld.	° F.	° F.	° F.	Fms.			Fms.	Hr. M.				
D. 3834	Apr. 2) Apr. 3)	6.50 p. m. 7.20 p. m. 8.00 a. m.	Kaunaakakai Landing, N. 22° E. 1'.	74 74 74	74 74 74	.....	8	co. r. s. sh....	E. L., D. N. Surf. N. S. and R. coll.	Surface. Surface.	1 55 1 5 4			Night anchorage. Towed from boom in tidal current; anchored. Shore collections given same station number.
D. 3835	Apr. 3	2.03 p. m. 2.28 p. m.	Lae-o Ka Laau Lt., N. 64° W. 13.7'.	79 79	76 76	55.0 55.0	169 169-182	fne. br. s. m. fne. br. s. m.	Sig. S. M. 9' Tnr.; 2 Hp. Swbs.	Bottom.	13	N. 65° W.	0.2		
D. 3836	Apr. 3	3.43 p. m. 4.12 p. m.	Lae-o Ka Laau Light, N. 58° 30' W. 11.8'.	76 76	76 76	48.0 48.0	238 238-255	br. gy. m. s. br. gy. m. s.	Sig. S. M. 9' Tnr.; 2 Hp. Swbs.	Bottom.	22	S. 74° W.	9		
D. 3837	Apr. 3	8.00 p. m. 8.00 p. m.	Lae-o Ka Laau Lt., N. 82° W. 7.4'.	74	76	.....	13	yl. s.	E. L., D. N. (Gl. N. at boom)	Surface. Surface.	1 25 All ni't			Night anchorage; 1/8 mile from shore.
D. 3838	Apr. 4	7.33 a. m. 7.54 a. m.	Lae-o Ka Laau Light, N. 74° 30' W. 8.1'.	72 72	75 75	67.0 67.0	92 92-212	fne. gy. br. s. fne. gy. br. s.	Sig. S. M. 6 Hp. Tgls.	Bottom.	22	S. 17° E.	6		
D. 3839	Apr. 4	8.59 a. m. 9.31 a. m.	Lae-o Ka Laau Lt., N. 64° W. 9.7'.	76 76	76 76	46.3 46.3	259 259-266	lt. br. m. s. lt. br. m. s.	Sig. S. M. 9' Tnr.	Bottom	25	S. 4° W.	7		
D. 3840	Apr. 4	10.28 a. m. 11.04 a. m. 11.13 a. m.	Lae-o Ka Laau Light, N. 69° W. 10'.	74 74 74	75 75 75	46.0 46.0	266 266-314	lt. br. m. s. r. lt. br. m. s. r.	Sig. S. M. 9' Tnr. Surf. N.	Bottom. Bottom. Surface.	18 11	S. 83° W. S. 83° W.	3 1	Frame bent; net wrecked. 1 haul.	
D. 3841	Apr. 4	12.21 p. m. 1.02 p. m.	Lae-o Ka Laau Light, N. 53° W. 8.9'.	75 75	75 75	45.0 45.0	314 314-336	fne. br. s. m. r. fne. br. s. m. r.	Sig. S. M. 5 1/2 Blk.	Bottom.	21	N. 89° W.	5	Water haul; no signs of net having been on bottom.	
D. 3842	Apr. 4	2.41 p. m. 3.37 p. m.	Lae-o Ka Laau Lt., N. 40° W. 8.5'.	74 74	75 75	40.5 40.5	495 495-506	fne. br. s. m. r. fne. br. s. m. r.	Sig. S. M. 5 1/2 Blk.	Bottom.	15	N. 63° W.	1		
D. 3843	Apr. 4	7.35 p. m.	Lae-o Ka Laau Light, N. 68° 45' W. 2.8'.	72	75	.....	11	s.	E. L., D. N.	Surface.	55			Night anchorage; off Hale Lono coast.
D. 3844	Apr. 8	7.00 a. m.	Kaunakaki Harbor, Molokai.	.....	.....	.....	.....	(Did not sound.)	S. and R. coll. ....	.....	2			
D. 3845	Apr. 8	9.48 a. m. 10.03 a. m. 10.15 a. m. 10.34 a. m.	Lae-o Ka Laau Light, N. 69° 30' W. 18.1'.	76 76 76 76	76 76 76 76	71.0 71.0 71.5	60 60-64 64	crs. s. p. sh. crs. s. p. sh. crs. br. s. sh. g.	Sig. S. M. 6 Hp. Tgls. Surf. N. Sig. S. M.	Bottom. Surface. Surface. Bottom.	20 5 5 22	S. 73° E. S. 73° E. N. 49° E. ....	.7 1 1 6	1 haul.
D. 3846	Apr. 8	10.49 a. m. 10.55 a. m.	Lae-o Ka Laau Light, N. 69° 45' W. 19.1'.	76 76	76 76	71.5 71.5	64-60	crs. br. s. sh. g. crs. br. s. sh. g.	5 1/2 Blk. Surf. N.	Bottom. Surface.	16	N. 49° E.	3	Do.	

D. 3847	Apr. 8	(12.05 p.m. 12.17 p.m.)	(Lae-o Ka Laau Light, N. 64° 30', W. 23')	75 76	76 76	23 23-24	s. st. s. st.	Hand lead 6 Hp. Tgls	Bottom.	21	N. 36° E.	.8		
D. 3848	Apr. 8	(3.04 p.m. 3.22 p.m. 3.42 p.m. 3.57 p.m.)	(Lae-o Ka Laau Light, N. 68° 15', W. 22')	80 80 80 80	76 76 71.1 67.6	44 44-73 73	s. g. s. g. cr. s. brk. sh. co.	Sig. S. M Surf. N. 5 1/2 Blk. Tnr. S. M	Surface. Bottom.	14 4	N. 8° E. N. 6° E.	.4 .1	Do.	
D. 3849	Apr. 8	(4.14 p.m. 4.18 p.m. 4.56 p.m.)	(Lae-o Ka Laau Light, N. 71° W., 21 1/2')	80 80 80	76 76 71.7	73-43 co. 43	crs. s. brk. sh. co. crs. s. brk. sh.	10' Blk. Surf. N. Tnr. S. M	Bottom. Surface.	30 24	N. 25° E. N. 25° E.	.8 .6	Do.	
D. 3850	Apr. 8	(4.18 p.m. 4.56 p.m. 5.06 p.m.)	(Lae-o Ka Laau Light, N. 74° 15', W. 22')	80 80	76 71.7	43-68 co.	crs. s. brk. sh. co.	10' Blk.	Bottom.	22	N. 55° E.	.8		
D. 3851	Apr. 8	7.20 p.m.	Kamalo Landing, North, 0.8'	74	74	61	s. sh. co.	E. L., D. N.	Surface.	1 27			Night anchorage.	
D. 3852	Apr. 9	(8.24 a.m. 8.42 a.m. 8.46 a.m.)	(Mokuhooniki Is- let, N. 49° 30', E. 14.7')	73 73 73	74 74.1 74.1	47 47-115	s. r. p. s. r. p.	Tnr. S. M Surf. N. 10' Blk.	Surface. Bottom.	5 10	N. 50° E. N. 50° E.	.3 .7	1 haul. Net torn.	
D. 3853	Apr. 9	(9.06 a.m. 9.41 a.m.)	(Mokuhooniki Is- let, N. 49° 45', E. 12.6')	74 74	73 73	68.5 68.5	115 115-134	crs. s. sh. crs. s. sh.	Tnr. S. M 5 1/2 Blk.	Bottom.	7	S. 83° E.	.2	
D. 3854	Apr. 9	(10.08 a.m. 10.35 a.m.)	(Mokuhooniki Is- let, N. 49° 45', E. 12')	75 75	74 74	69.7 69.7	134 134-130	s. sh. r. s. sh. r.	Sig. S. M 9' Tnr.	Bottom.	2	N. 15° E.	.1	Frame broken; net wrecked.
D. 3855	Apr. 9	(11.03 a.m. 11.31 a.m.)	(Mokuhooniki Is- let, N. 50° 15', E. 11')	76 76	75 75	65.5 65.5	130 130-127	fne. br. s. r. fne. br. s. g.	Sig. S. M 6 Hp. Tgls	Bottom.	20	S. 79° E.	.8	
			<i>Pailolo Channel, between Molokai and Maui Ids., and NE. ap- proach.</i>											
D. 3856	Apr. 9	(12.09 p.m. 12.38 p.m.)	(Mokuhooniki Is- let, N. 42° 45', E. 10')	76 76	74 74	66.5 66.5	127 127-127	fne. s. yl. m. fne. s. yl. m.	S. S. M 5 1/2 Blk.	Bottom.	16	N. 74° E.	.3	
D. 3857	Apr. 9	(1.20 p.m. 1.44 p.m.)	(Mokuhooniki Is- let, N. 38° 45', E. 9')	77 77	74 74	62.5 62.5	127 127-128	fne. s. yl. m. fne. s. yl. m.	Sig. S. M 10' Blk.	Bottom.	19	N. 68° E.	.4	
D. 3858	Apr. 9	(2.24 p.m. 2.48 p.m.)	(Mokuhooniki Is- let, N. 35°, E. 8.1')	79 79	74 74	(61.5) 61.8 61.5 61.8	128 128-138	fne. s. gy. m. fne. s. gy. m.	Sig. S. M 10' Blk.	Bottom.	20	N. 62° E.	.2	
D. 3859	Apr. 9	(4.04 p.m. 4.28 p.m.)	(Mokuhooniki Is- let, N. 18°, E. 5.6')	76 76	74 74	(60.2) 60.5 60.2 60.5	138 138-140	fne. s. m. fne. s. m.	Sig. S. M 10' Blk.	Bottom.	20	N. 35° E.	.4	
D. 3860	Apr. 9	7.05 p.m.	Napili Landing, Maui, SW 0.5'	73	75	61	r. co. s.	E. L., D. N.	Surface.	2 15			Night anchorage.	

Record of the dredging and other collecting stations of the Albatross in 1902—Continued.

Station No.	Date.	Time of day.	Position.	Temperatures.			Kind of bot-tom.	Instrument used.	Trawl.		Drift.		Remarks.
				Air.	Sur-face.	Bot-tom.			Depth.	Length.	Direction.	Dis-tance.	
				° F.	° F.	Fms.			Fms.	Hr. M.			
	1902.		Pailolo Channel, between Molokai and Maui Ids., and NE. approach—C'd.										
D. 3861	Apr. 10	6.54 a. m.		72	74	30	fne. s. sm. p. co.	Tnr. S.M.					Position, 1/2 west from Honokahu Point, NW. end Maui.
		7.08 a. m.	Mokuhooniki Islet, N. 13° 15' W, 7.4'	72	74	30-32	fne. s. sm. p. co.	5 Hp. Tgls	Bottom.	0 8	N. 8° E...	0.3	
		7.10 a. m.		72	74			Surf. N	Surface.	12	N. 8° E...	.5		1 haul.
D. 3862	Apr. 10	7.45 a. m.	Mokuhooniki Islet, N. 16° 45' W, 4.9'	73	75 (68.0)	108	crs. s. sh. r.	Tnr. S.M.					
		8.06 a. m.		73	75 (68.0)	108-127	crs. s. sh. r.	5 1/2 Blk	Bottom.	14	N. 1° W...	.8	Net torn.
D. 3863	Apr. 10	8.42 a. m.	Mokuhooniki Islet, N. 31° W, 2.7'	74	76 (60.0)	127	brk. co. crs. g. r.	Sig. S.M.					
		9.02 a. m.		74	76 (60.0)	127-154	brk. co. crs. g. r.	8 Hp. Tgls	Bottom.	20	N. 20° W...	.9	
D. 3864	Apr. 10	11.40 a. m.	Mokuhooniki Islet, N. 67° 45' W, 4.1'	77	75 (55.9)	163	fne. vol. s. sh.	Sig. S.M.					
		12.03 p. m.		77	75			Surf. N	Surface.	27	N. 46° E...	1	1 haul.
		12.05 p. m.		77	75 (57.5)	163-198	fne. vol. s. sh.	5 1/2 Blk	Bottom.	20	N. 46° E...	.9	Apron wrecked.
D. 3865	Apr. 10	1.22 p. m.	Mokuhooniki Islet, S. 79° W, 6.9'	77	76 (44.8)	256	fne. vol. s. r.	Sig. S.M.					
		1.55 p. m.		77	76 (45.0)			Surf. N	Surface.	10	N. 14° E...	.1	1 haul.
		1.59 p. m.		77	76 (44.8)	256-283	fne. vol. s. r.	10' Blk	Bottom.	20	N. 14° E...	.2	Heavy strain on gear, but no damage done.
D. 3866	Apr. 10	3.07 p. m.	Mokuhooniki Islet, S. 70° 15' W, 7.6'	75	75 (43.8)	283	gy. m. fne. s.	Sig. S.M.					
		3.47 p. m.		75	75 (43.8)	283-284	gy. m. fne. s.	10' Blk	Bottom.	30	N. 37° E...	.4	
D. 3867	Apr. 10	5.06 p. m.	Mokuhooniki Islet, S. 64° 30' W, 9.1'	80	75 (43.8)	284	fne. s. m.	Sig. S.M.					
		6.00 p. m.		80	75 (44.0)	284-290	fne. s. m.	10' Blk	Bottom.	16	N. 54° E...	.2	
D. 3868	Apr. 11	5.37 a. m.	Mokuhooniki Islet, S. 57° W, 14.3'	74	74 (43.6)	294	fne. gy. s. r.	Sig. S.M.					
		6.21 a. m.		74	74 (44.5)	294-684	fne. gy. s. r.	10' Blk	Bottom.	31	N. 27° E...	.9	Net badly torn.

D. 3869	Apr. 11	7.40 a. m.	Mokuhooniki Islet, S. 52° W, 17.0'	74	74 (38.8)	684	br. m. r.	Sig. S. M.							
		9.03 a. m.		74	74 (38.8)	684-759	br. m. r.	9' Tnr	Bottom.	50	N. 49° E.	1	Lost everything below dredging sinker.		
<i>Avau Channel, between Maui and Lanai islands.</i>															
D. 3870	Apr. 11	7.00 p. m.	Lahaina Landing, Maui, N. 64° E. 0.4'	77	76	14	co. s. sh. st. co.	E. L., D. N.	Surface.	2	30				Night anchorage.
D. 3871	Apr. 12	7.27 a. m.	Mokuhooniki Islet, N. 3° W, 15.9'	72	76	13-43	fne. wh. s.	Hand lead.							About 1/4 mile offshore; near preceding station.
		7.39 a. m.		72	76		fne. wh. s.	6 Hp. Tgls.	Bottom.	20	S. 70° W.	1			
		7.51 a. m.		72	76			Surf. N.	Surface.	10	S. 70° W.	5	1 haul.		
D. 3872	Apr. 12	8.10 a. m.	Mokuhooniki Islet, N. 3° E, 16.6'	77	76	74.6	yl. s. p. co.	Tnr. S. M.							
		8.19 a. m.		77	76	74.6	43-32	yl. s. p. co.	5 1/2' Blk	Bottom.	9	SW	4		
D. 3873	Apr. 12	8.36 a. m.	Mokuhooniki Islet, N. 5° E, 17.3'	77	76	74.6	co. p.	Tnr. S. M.							
		8.43 a. m.		77	76	74.6	32-37	co. p.	6 Hp. Tgls.	Bottom.	15	S. 57° W.	9		
D. 3874	Apr. 12	10.31 a. m.	Mokuhooniki Islet, N. 19° 45' E, 18.2'	81	76	75.3	s. p. sh.	Tnr. S. M.							
		10.38 a. m.		81	76	75.3	21-28	s. p. sh.	6 Hp. Tgls.	Bottom.	11	S. 25° W.	3		
D. 3875	Apr. 12	12.25 p. m.	Mokuhooniki Islet, N. 14° 30' E, 13.7'	78	77	70.8	fne. gy. s.	Tnr. S. M.							
		12.37 p. m.		78	77	70.8	65-34	fne. gy. s.	9' Tnr	Bottom.	17	E.	5		
D. 3876	Apr. 14	7.30 a. m.	Lahaina Light, Maui, N. 60° 45' E. 1.6'	73	75	28	s. g.	Sig. S. M.							
		7.39 a. m.		73	75	74.0	28-43	s. g.	9' Tnr	Bottom.	5	S. 52° W.	3		
D. 3877	Apr. 14	8.50 a. m.	Lahaina Light, Maui, N. 30° 15' W. 4.8'	76	77	74.0	co. r.	Tnr. S. M.							
		9.00 a. m.		76	77	74.0	25	co. r.	6 Hp. Tgls.	Bottom.	(?)			Lost 65 fms. dredging cable, 250-pound sinker, tangle gear complete, etc.	
<i>South of Lanai Island, and west of Kahoolawe Island.</i>															
D. 3878	Apr. 14	7.43 p. m.	Molokini Islet, N. 81° E. 51.2'	74	77		(Did not sound.)	2 Surf. N., tandem.	Surface.	57	SE	2	5 hauls.		
		7.48 p. m.		74	77			Op. Int.	75	22	SE	1	7 m. coming up; 1 haul.		
D. 3879	Apr. 15	9.36 a. m.	Molokini Islet, N. 75° E. 42.6'	76	77	37.1	923	glob. oz. r.	Sig. S. M.						
		11.02 a. m.		76	77	37.1	923-1,081	glob. oz. r.	5 1/2' Blk., Sh. Dr.	Bottom.	24	N. 50° E.	3	Lost Blake frame and most of net. Cable stranded at 1,330 fms., and badly kinked in lower section.	
D. 3880	Apr. 15	8.35 p. m.	Molokini Islet, S. 79° E. 15.2'	76	76		(Did not sound.)	2 Surf. N., tandem.	Surface.	15	N. 20° E.	1	1 haul.		

Record of the dredging and other collecting stations of the Albatross in 1902—Continued.

Station No.	Date.	Time of day.	Position.	Temperatures.			Depth.	Kind of bot- tom.	Instrument used.	Trawl.		Drift.		Remarks.						
				Air.	Sur- face.	Bot- tom.				Depth.	Length.	Direction.	Dis- tance.							
D. 3881	1902. Apr. 16	9.00 a. m.	Pailolo Channel, be- tween Maui and Molokai islands. Napili Harbor, Maui Island.	° F.	° F.	° F.	Fms. (Did not sound.)	S. R. coll.	Fms.	Hr. M.			Landing party.							
D. 3882	Apr. 16	12.15 p. m. 12.37 p. m.	(Mokuhooniki Is- let, N. 30°, W. 3.1'.	79	76	63.5	136	s. co. r.	(Tnr. S. M. 6 Ch. Tgls.	Bottom.	3	N. 47° E.	0.1	Lost 1 chain swab.						
				79	76	63.5														
D. 3883	Apr. 16	2.04 p. m. 2.44 p. m.	(Mokuhooniki Is- let, S. 80° 30', W. 7.8'.	77	76	45.2	277	glob. oz.	Sig. S. M.	Bottom.	31	N. 36° E.	.6							
				77	76	45.2									277-284	glob. oz.	9' Tnr			
D. 3884	Apr. 16	3.53 p. m. 4.42 p. m.	(Mokuhooniki Is- let, S. 75°, W. 9.2'.	76	75	44.0	284	glob. m.	Sig. S. M.	Bottom.	20	N. 68° E.	.5							
				76	75	44.0									284-290	glob. m.	9' Tnr			
D. 3885	Apr. 17	7.47 a. m. 8.03 a. m.	(Mokuhooniki Is- let, N. 27°, W. 3.3'.	75	76	64.8	136	s. p.	Tnr. S. M.	Bottom.	21	N. 58° E.	.6							
				75	76	64.8									136-148	s. p.	2 Ch. Tgls.; 1 Hp. swbs.			
D. 3886	Apr. 17	8.37 a. m. 8.49 a. m. 8.52 a. m.	(Mokuhooniki Is- let, N. 47° W. 3.4'.	75	76	65.0	148	p. r.	Tnr. S. M.	Surface.	23	N. 10° W.	.9	2 hauls.						
				75	76	65.0										Surf. N.		21	N. 10° W.	.8
				75	76	65.0									148-148	p. r.	3 Ch. Tgls.	Bottom.	21	N. 10° W.	.8
D. 3887	Apr. 17	10.54 a. m. 11.59 a. m.	(Mokuhooniki Is- let, S. 15°, W. 8.8'.	76	74	39.5	552	glob. m.	Sig. S. M.	Bottom.	20	N. 50° W.	.4							
				76	74	39.5									552-809	glob. m.	9' Tnr			
D. 3888	Apr. 17	1.34 p. m. 2.55 p. m.	(Mokuhooniki Is- let, S. 2°, W. 10.2'.	78	74	37.5	809	fine. vl. s. glob.	(Sig. S. M. 9' Tnr	Bottom.	7	N. 79° W.	.1	Frame badly bent and broken; net wrecked.						
				78	74	37.5														
D. 3889	Apr. 17	7.13 p. m.	Mokapu Islet, S. 73° 30', W. 5.0'.	74	74	.....	(Did not sound.)	2 Surf. N., tan- dem.	Surface.	1 2	N. 78° W.	1	5 hauls.						
D. 3890	Apr. 18	7.19 a. m. 7.34 a. m.	Mokapu Islet, S. 77° 30', W. 2.8'.	75	74	71.2	71	bk. s.	Tnr. S. M.	Bottom.	20	N. 11° W.	.8	Evidently on bottom only part of time.						
				75	74	71.2									71-283	bk. s.	2 Ch., 1 Hp. Tgls.			
D. 3891	Apr. 18	8.35 a. m. 9.13 a. m.	Mokapu Islet, S. 30°, W. 4.1'.	75	73	40.1	466	vol. s. brk. sh. lav.	Sig. S. M.	Bottom.	10	N. 37° W.	.3							
				75	73	40.1									466-641	vol. s. brk. sh. lav.	Sh. Dr.			
D. 3892	Apr. 18	3.17 p. m. 3.58 p. m.	Mokapu Islet, S. 66° 15', E. 9.8'.	77	74	42.5	328	fine. gy. s.	Sig. S. M.	Bottom.	15	N. 44° W.	.3							
				77	74	42.5									328-414	fine. gy. s.	5 1/2' Blk			

D.	Date	Time	Location	Lat.	Long.	Depth	Bottom	Direction	Surface	Bottom	Depth	Direction	Notes		
D. 3893	Apr. 19	7.46 a. m.	Kaiwi Channel, between Molokai and Oahu islands.	74	76	47.0	220	fne. wh. s. r. . . .	Sig. S. M.						
		8.18 a. m.		74	76					Surf. N	Surface.	20	N. 56° W.7	2 hauls.
		8.27 a. m.		74	76	47.0	220-246	fne. wh. s. r. . . .	9' Trn		Bottom.	27	N. 56° W.8	Bridle stops parted; net cap- sized and torn.
D. 3894	Apr. 19	10.28 a. m.	[Lae-o Ka Laau] Light, S. 60° 15', E. 14.1'.	76	76	42.9	374	gy. s. sh. r. . . .	(Sig. S. M.						
		11.05 a. m.		76	76	42.9			(10' Blk.					Bottom.	10	N. 50° W. . . . .	.2	Frame complete wreck; net torn beyond repair.
D. 3895	Apr. 28	2.51 p. m. 3.23 p. m.	South of Molokai Island and west of Lanai Island.	73	75	47	252	co. r.	Sig. S. M.						
				73	75	47	252-429	co. r.	5 1/2' Blk.						Bottom.	23	N. 41° W. . . . .	.4	Lost complete Blake beam- trawl frame and net.
D. 3896	Apr. 29	8.16 a. m.	Auau Channel, be- tween Maui and Lanai islands.	73	74	63.1	126	s. p. brk. sh. . . .	Trn. S. M.						
		8.37 a. m.		73	74	63.1	126-130	s. p. brk. sh. . . .	9' Trn					Bottom.	19	N. 6° E. . . . .	.3
D. 3897	Apr. 29	9.42 a. m.	Pailolo Channel, between Maui and Molokai is- lands.	72	74	62.9	123	fne. br. s.	Trn. S. M.						
		10.04 a. m.		72	74	62.9	123-134	fne. br. s.	9' Trn					Bottom.	20	N. 6° W. . . . .	.5
D. 3898	Apr. 29	2.25 p. m.	Mokuhooniki Is- let, S. 81° 45', W. 9.5'.	78	74	44.1	258	br. glob. m. . . .	Sig. S. M.						
		3.00 p. m.		78	74	44.1	258-294	fne. a. br. glob. m. . . .	9' Trn					Bottom.	32	N. 7° W. . . . .	.8
D. 3899	Apr. 29	4.02 p. m.	Mokuhooniki Is- let, S. 69° W. 9.8'.	79	75	44.2	284	fne. a. br. glob. m. . . .	Sig. S. M.						
		4.41 p. m.		79	75	44.2	284-283	fne. a. br. glob. m. . . .	9' Trn					Bottom.	30	N. 16° W. . . . .	.7
D. 3900	Apr. 29	5.42 p. m.	Mokuhooniki Is- let, S. 58° W. 10.1'.	75	75	43.9	285	fne. a. br. glob. m. . . .	Sig. S. M.						
		6.15 p. m.		75	75	43.9	285-280	fne. a. br. glob. m. . . .	9' Trn					Bottom.	30	N. 19° W. . . . .	.8
D. 3901	Apr. 29	7.23 p. m.	Mokuhooniki Is- let, S. 48° W. 10.9'	74	74	44.0	280	glob. s. brk. sh	Sig. S. M.						
		7.41 p. m.		74	74									Surf. N	Surface.	40	N. 15° W. . . . .	.1	4 hauls.
		8.02 p. m.		74	74	44.0	280-311	glob. s. brk. sh	9' Trn	Bottom.	30	N. 15° W.8		

Record of the dredging and other collecting stations of the Albatross in 1902—Continued.

Station No.	Date.	Time of day.	Position.	Temperatures.				Depth.	Kind of bot- tom.	Instrument used.	Trawl.		Drift.		Remarks.
				Alr.	Sur- face.	Bot- tom.	Fms.				Depth.	Length.	Direction.	Dis- tance.	
	1902.		North coast of Mo- lokai Island.	° F.	° F.	° F.	Fms.			Fms.	Hr. M.				
D. 3902	Apr. 30	6.17 a. m. 8.53 a. m.	Mokapu Islet, S. 76° 30', W. 9.4'	70 70	74 74	62.0 62.0	138 138-165	gy. s. co. sh. gy. s. co. sh.	Sig. S. M. 6 Ch. Tgls.	Bottom.	21	N. 7° W.	0.6	Swabs came up clean; evi- dently not on bottom.	
D. 3903	Apr. 30	10.15 a. m. 11.26 a. m.	Mokapu Islet, S. 58° W. 10.5'	76 76	74 74	38.1 38.1	714	fine. s. br. m. r.	(Sig. S. M.) 9' Tr.	Bottom.	28	N. 13° E.	.2	Lost complete Tanner beam- trawl frame and net.	
D. 3904	Apr. 30	3.55 p. m. 4.26 p. m.	Mokapu Islet, S. 76° W. 13'	76 76	75 75	43.9 43.9	295	br. m. s. r.	(Sig. S. M.) 8' Blk.	Bottom.	4	W.	.1	Night anchorage.	
D. 3905	Apr. 30	7.30 p. m.	Off Kalatupapa le- persettlement, I.	72	75	.....	20	hard s. sh.	E. L. D. N.	Surface.	1	15		
D. 3906	May 1	2.35 p. m. 2.56 p. m.	Mokapu Islet, S. 74° E. 12.8'	74 74	75 75	72.0 72.0	66 66-96	gy. s. sh. p. gy. s. sh. p.	Sig. S. M. 6 Ch. Tgls.	Bottom.	11	N. 16° W.	.3	Broke thrust spring of reel- ing engine.	
			South coast of Oahu Island.												
D. 3907	May 5	9.42 a. m. 10.01 a. m. 10.12 a. m.	Diamond Head Light, N. 29° E. 9.6'	75 75 75	75 75 75	43.7 43.7	315 315-304	fine. wh. s. m. fine. wh. s. m.	Sig. S. M. Surf. 8' Blk., 2 Hp. Swbs.	Surface. Bottom.	20 20	N. 29° E. N. 29° E.	.9......9	2 hauls.	
D. 3908	May 5	11.05 a. m. 11.33 a. m. 11.35 a. m.	Diamond Head Light, N. 21° E. 6.9'	73 73 73	75 75 75	43.8 43.8	304 304-308	fine. wh. s. m. fine. wh. s. m.	Sig. S. M. 8' Blk. Surf. N.	Bottom. Surface.	31 20	N. 5° W. N. 5° W.	.8......5	Do.	
D. 3909	May 5	12.36 p. m. 1.05 p. m.	Diamond Head Light, N. 31° E. 5.3'	75 75	75 75	43.5 43.5	308 308-322	fine. wh. s. m. fine. wh. s. m.	Sig. S. M. 8' Blk.	Bottom.	30	N. 50° E.	.8		
D. 3910	May 5	3.33 p. m. 4.06 p. m.	Diamond Head Light, N. 7° E. 12.5'	73 73	76 76	43.7 43.7	311 311-337	fine. gy. s. m. fine. gy. s. m.	Sig. S. M. 11' Tr.	Bottom.	31	N. 13° W.	.6		
D. 3911	May 5	5.16 p. m. 5.34 p. m. 5.48 p. m.	Diamond Head Light, N. 16° E. 11'	74 74 74	76 76 76	43.2 43.2	337 337-334	fine. gy. s. m. fine. gy. s. m.	Sig. S. M. Surf. N. 11' Tr.	Surface. Bottom.	1 3 32	N. 51° W. N. 51° W.	1.2......6	4 hauls.	
D. 3912	May 5	6.59 p. m. 7.13 p. m. 7.38 p. m.	Diamond Head Light, N. 20° E. 10.2'	72 72 72	76 76 76	43.0 43.0	334 334-310	fine. gy. s. m. fine. gy. s. m.	Sig. S. M. Surf. N. 11' Tr.	Surface. Bottom.	48 30	N. 20° E. N. 20° E.	.8......5	Do.	
D. 3913	May 6	5.07 a. m.	Diamond Head Light, N. 26° E. 17'	71	74	.....	.....	(Did not sound.)	Surf. N.	Surface.	13	N. 40° W.	.8	1 haul.
D. 3914	May 6	5.28 a. m. 6.25 a. m. 6.34 a. m.	Diamond Head Light, N. 23° 10' E. 16.4'	71 71 71	74 74 74	..... ..... .....	289 289-292	gy. s. m. gy. s. m.	Sig. S. M. Surf. N. 11' Tr.	Surface. Bottom.	10 20	N. 49° W. N. 49° W.	.3......5	Do.

D. 3915	May 6	{ 7.28 a. m. 7.58 a. m.	{ Diamond Head Light, N. 30° E. 15.3'.	72 72	76 46.0 76 46.0	292 292-299	gy. s. r. gy. s. r.	Sig. S. M. 11' Tnr.	Bottom.	3	N. 70° E.	1	Lost 80 fms. cable, and complete Tanner beam-trawl frame and net; also 250-pound dredging sinker.
D. 3916	May 6	{ 10.12 a. m. 10.45 a. m.	{ Diamond Head Light, N. 40° E. 9.7'.	74 74	76 44.0 76 44.0	299 299-330	gy. s. m. gy. s. m.	Sig. S. M. 8' Blk.	Bottom.	30	N. 62° W.	8	
D. 3917	May 6	{ 11.51 a. m. 12.22 p. m.	{ Diamond Head Light, N. 50° 30' E. 10.3'.	76 76	76 44.0 76 44.0	330 330-294	gy. s. m. gy. s. m.	Sig. S. M. 11' Tnr.	Bottom.	31	N. 16° E.	1	
D. 3918	May 6	{ 1.31 p. m. 1.58 p. m.	{ Diamond Head Light, N. 63° E. 8'.	77 77	76 44.5 76 44.5	294 294-257	wh. s. m. wh. s. m.	Sig. S. M. 11' Tnr.	Bottom.	42	N. 14° W.	1.3	
D. 3919	May 6	{ 3.09 p. m. 3.36 p. m.	{ Diamond Head Light, N. 84° E. 7.9'.	75 75	76 45.6 76 45.6	257 257-220	gy. s. gy. s.	Sig. S. M. 11' Tnr.	Bottom.	26	N. 17° W.	5	
D. 3920	May 6	{ 5.18 p. m. 5.55 p. m.	{ Diamond Head Light, N. 74° E. 8.9'.	75 75	76 44.6 76 44.6	280 280-265	gy. s. brk. sh. gy. s. brk. sh.	Sig. S. M. 11' Tnr.	Bottom.	15	N. 34° E.	3	
D. 3921	May 6	8.45 p. m.	{ Diamond Head Light, S. 62° E. 3.9'.	72	75	13	co. s. brk. sh.	E. L., D. N.	Surface.	49			Night anchorage; off Honolulu.
D. 3922	May 7	{ 8.39 a. m. 9.13 a. m.	{ Diamond Head Light, N. 73° E. 13.3'.	77 77	76 44.5 76 44.5	281 281-369	{ ft. gy. s. brk. sh. co. r. { ft. gy. s. brk. sh. co. r.	Sig. S. M. 8' Blk.	Bottom.	8	S. 62° W.	2	Lost Blake beam-trawl frame and net
D. 3923	May 7	{ 9.58 a. m. 10.29 a. m.	{ Diamond Head Light, N. 72° 30' E. 14.5'.	77 77	76 40.7 76 40.7	369 369-298	fne. gy. s. r. fne. gy. s. r.	Sig. S. M. 8 Hp. Tgls.	Bottom.	33	S. 23° E.	8	Eye-bolt drew out of crown; lost complete tangle outfit.
D. 3924	May 7	{ 1.37 p. m. 2.12 p. m.	{ Diamond Head Light, N. 23° 30' E. 12.6'.	75 75	75 44.0 75 44.0	301 301-336	fne. s. yl. m. r. fne. s. yl. m. r.	Sig. S. M. 11' Tnr.	Bottom.	22	N. 9° W.	3	Lost Tanner beam-trawl frame and net.
D. 3925	May 7	{ 3.58 p. m. 4.27 p. m.	{ Diamond Head Light, N. 29° 30' E. 10.2'.	75 75	76 43.7 76 43.7	323 323-299	fne. gy. s. m. r. fne. gy. s. m. r.	Sig. S. M. 8' Tnr. with brace.	Bottom.	16	N. 4° E.	5	Bridle stops parted; net capsized and torn.
			From Honolulu to Laysan Island.										
			Lat. N.	Long. W.									
			o	o									
D. 3926	May 10	7.15 p. m.	21 13 00	158 43 00	74	75	(Did not sound.)	Surf. N.	Surface.	50	N. 70° W.	2	5 hauls.
D. 3927	May 11	{ 6.26 p. m. 7.03 p. m.	{ 21 31 00 21 31 00	{ 161 55 00 161 55 00	74 74	76 35.1 76	2,329 br. m.	Sig. S. M. Surf. N.	Surface.	1	N. 70° W.	2.3	6 hauls.
D. 3928	May 12	{ 5.49 p. m. 6.32 p. m.	{ 22 28 00 22 28 00	{ 164 30 00 164 30 00	74 74	76 36.7 76	2,335 br. m.	Sig. S. M. Surf. N.	Surface.	1 11	N. 70° W.	2.3	7 hauls.
D. 3929	May 13	6.38 p. m.	23 19 00	166 54 00	74	75	(Did not sound.)	Surf. N.	Surface.	1 10	N. 68° W.	2.5	Do.

Record of the dredging and other collecting stations of the Albatross in 1902—Continued.

Station No.	Date.	Time of day.	Position.		Temperatures.			Depth.	Kind of bot- tom.	Instrument used.	Trawl.		Drift.		Remarks.
			Lat. N.	Long. W.	Air.	Sur- face.	Bot- tom.				Depth.	Length.	Direction.	Dis- tance.	
			From Honolulu to Laysan Island—Continued.												
D. 3380	1902. May 15	6.37 p. m.	25 07 00	170 50 00	74	74	.....	Fms. (Did not sound.)	2 Surf. N.; 1 each side.	2 Surf. N.; 1 each side.	Fms. Surface.	Hr. M. 1 0	N. 60° W..	2	12 hauls (6 simultaneously each side).
D. 3381	May 15	11.00 p. m.	25 27 00	171 08 00	74	74	.....	(Did not sound.)	2 Surf. N.; 1 each side.	2 Surf. N.; 1 each side.	Surface.	20	N. 50° W..	.7	4 hauls (2 simultaneously each side).
			Vicinity of Laysan Island.												
D. 3382	May 16	4.13 a. m.	25 45 00	171 32 00	74	73	.....	(Did not sound.)	2 Surf. N.; 1 each side.	2 Surf. N.; 1 each side.	Surface.	1 0	N. 50° W..	2	10 hauls (5 simultaneously each side).
								Fms.							
D. 3383	May 16	{ 8.22 a. m. 8.28 a. m.	{ Laysan Island Light, S. 79° 30', E. 3.8'	{	76	75	74.0	23	wh. s. brk. sh. r	Tnr. S. M.	.....	.....	.....	.....	Eyebolt drew out in head of crown; lost frame complete, and 6 chain tangles swabs.
					76	75	74.0	23-19	wh. s. brk. sh. r	6 Ch. Tgls.....	Bottom.	13	N. 85° W..	.8	
D. 3384	May 16	{ 9.17 a. m. 9.23 a. m.	{ Laysan Island Light, S. 80° 30', E. 6.1'	{	75	75	73.2	28	wh. s. brk. sh. r	Tnr. S. M.	.....	.....	.....	.....
					75	75	73.2	28-57	wh. s. brk. sh. r	2 Hp. Swbs....	Bottom.	15	N. 73° W..	.9	
D. 3385	May 16	{ 9.44 a. m. 9.55 a. m.	{ Laysan Island Light, S. 79° 30', E. 7.3'	{	76	75	71.1	57	wh. s. brk. sh. corin.	Tnr. S. M.	.....	.....	.....	.....
					76	75	71.1	57-79	wh. s. brk. sh. corin.	Oyster Dr.....	Bottom.	15	S. 27° W..	.4	
D. 3386	May 16	{ 10.23 a. m. 10.35 a. m.	{ Laysan Island Light, S. 84° E. 7.5'	{	81	76	68.0	79	sml. brk. sh. corin.	Tnr. S. M.	.....	.....	.....	.....	1 haul.
					81	76	68.0	79-130	sml. brk. sh. corin.	Sh. Dr.....	Bottom.	15	S. 27° W..	.3	
					81	76	.....	.....	.....	Surf. N.....	Surface.	10	S. 27° W..	.2	
D. 3387	May 16	{ 10.59 a. m. 11.11 a. m.	{ Laysan Island Light, S. 87° E. 7.2'	{	79	76	63.0	130	wh. s. sml. sh.	Tnr. S. M.	.....	.....	.....	.....
					79	76	63.0	130-148	wh. s. sml. sh.	Sh. Dr.....	Bottom.	20	S. 39° W..	.2	
D. 3388	May 16	{ 11.38 a. m. 11.52 a. m.	{ Laysan Island Light, S. 88° 30', E. 7.8'	{	79	76	60.3	148	wh. s. brk. sh.	Tnr. S. M.	.....	.....	.....	.....
					79	76	60.3	148-163	wh. s. brk. sh.	5' Blk.....	Bottom.	20	S. 65° W..	.3	
D. 3389	May 16	{ 12.31 p. m. 12.59 p. m.	{ Laysan Island Light, S. 89° 30', E. 8.1'	{	77	76	57.5	163	wh. s. brk. sh. r	Tnr. S. M.	.....	.....	.....	.....	Lost frame, float, apron, weights, etc.; fragment net recovered.
					77	76	57.5	163-59	wh. s. brk. sh. r	8' Tnr. with Brree.	Bottom.	31	N. 62° E..	.7	

D. 3940	May 16	1.47 p. m.	Laysan Island Light, S. 84° E, 7.0'.	81	76	70.0	59	wh. s. brk. sh.	Tnr. S. M.						
		2.00 p. m.		81	76	70.0	59-70	wh. s. brk. sh.	5½ Blk.	Bottom.	20	S. 31° W.	3		
D. 3941	May 16	2.28 p. m.	Laysan Island Light, S. 85° E, 7.2'.	81	76	68.5	70	brk. sh. rd. corln.	Tnr. S. M.						
		2.55 p. m.		81	75	68.5	70-146	brk. sh. rd. corln.	8' Tnr.	Bottom.	20	S. 74° W.	5	Water haul; net probably not on bottom.	
D. 3942	May 16	3.25 p. m.	Laysan Island Light, S. 89° E, 7.8'.	77	76	62.0	146	wh. s. brk. sh.	Tnr. S. M.						
		3.40 p. m.		77	76	62.0	146-222	wh. s. brk. sh.	Surf. N.	Surface.	10	S. 75° W.	2	1 haul.	
D. 3943	May 16	3.44 p. m.	Laysan Island Light, N. 89° E, 8.8'.	77	76	62.0	222	fne. wh. s.	8' Tnr.	Bottom.	22	S. 75° W.	5	Shark bit stray-line lead while sounding; wire go- ing down.	
		4.23 p. m.		76	76	53.9	222	fne. wh. s.	8' Tnr.	Bottom.	20	S. 82° E.	3		
D. 3944	May 19	4.57 p. m.	Laysan Island Light, N. 77° E, 8.6'.	75	74	51.4	253	fne. wh. s.	8' Tnr.	Bottom.	21	N. 58° W.	4	Water haul; touched on one runner, for moment only.	
		10.24 a. m.		75	74	51.4	253-590	fne. wh. s.	8' Tnr.	Bottom.	21	N. 58° W.	4		
D. 3945	May 19	11.38 a. m.	Laysan Island Light, N. 81° E, 9.2'.	75	74	38.7	590	fne. wh. s.	8' Tnr.	Bottom.	15	S. 38° W.	2		
		12.34 p. m.		75	74	38.7	590- 1,140	fne. wh. s.	8' Tnr.	Bottom.	15	S. 38° W.	2		
D. 3946	May 19	3.09 p. m.	Laysan Island Light, S. 85° E, 8.0'.	76	74	64.2	124	wh. s. co. frag.	8' Tnr.	Bottom.	20	N. 24° W.	3		
		3.34 p. m.		76	74	64.2	124-199	wh. s. co. frag.	8' Tnr.	Bottom.	20	N. 24° W.	3		
D. 3947	May 19	4.13 p. m.	Laysan Island Light, S. 78° E, 8.6'.	74	74	56.2	199	fne. wh. s. brk. sh.	8' Tnr.	Bottom.	32	N. 61° E.	1.1		
		4.43 p. m.		74	74	56.2	199-97	fne. wh. s. brk. sh.	8' Tnr.	Bottom.	32	N. 61° E.	1.1		
D. 3948	May 21	8.28 a. m.	Laysan Island Light, SE. 7.9'.	74	76	74.0	38	co. s.	Tnr. S. M.						
		8.44 a. m.		74	76	74.0	38-59	co. s.	7 Hp. Tgls.	Bottom.	12	N. 60° E.	1		
D. 3949	May 21	9.06 a. m.	Laysan Island Light, S. 35° E, 7.7'.	76	75	69.5	59	wh. s. brk. sh.	Tnr. S. M.						
		9.23 a. m.		76	75	69.5	59-152	wh. s. brk. sh.	Oyster Dr.	Bottom.	5	N. 48° E.	3		
D. 3950	May 21	9.37 a. m.	Laysan Island Light, S. 19° E, 8.0'.	76	75	.....	152	wh. co. s. co. frag.	Tnr. S. M.					Stray line parted; lost in- struments.
		10.01 a. m.		76	75	.....	152-329	wh. co. s. co. frag.	11' Tnr.	Bottom.	20	N. 64° E.	6	
D. 3951	May 21	10.45 a. m.	Laysan Island Light, S. 8° E, 7.8'.	76	75	46.9	329	co. r.	8' Tnr.	Bottom.	20	S. 63° E.	5	Very heavy strains; lost frame, net, float, and tail weight; everything except bride and shackles.	
		11.19 a. m.		76	75	46.9	329-351	co. r.	11' Tnr.	Bottom.	20	S. 63° E.	5		
D. 3952	May 21	12.47 p. m.	Laysan Island Light, S. 10° W, 7.6'.	77	77	45.0	351	wh. s. g.	8' Tnr.	Bottom.	5	S. 88° E.	1		
		1.22 p. m.		77	77	45.0	351-347	wh. s. g.	5½ Blk.	Bottom.	5	S. 88° E.	1		
D. 3953	May 21	2.12 p. m.	Laysan Island Light, S. 17° W, 7.7'.	77	77	45.0	347	wh. s. g. co. r.	8' Tnr.	Bottom.	8	S. 25° E.	1	Frame, net, and apron re- covered badly damaged.	
		2.40 p. m.		77	77	45.0	347-264	wh. s. g. co. r.	5½ Blk.	Bottom.	8	S. 25° E.	1		

Record of the dredging and other collecting stations of the Albatross in 1902—Continued.

Station No.	Date.	Time of day.	Position.	Temperatures.			Depth.	Kind of bot- tom.	Instrument used.	Trawl.		Drift.		Remarks.
				Air.	Sur- face.	Bot- tom.				Depth.	Length.	Direction.	Dis- tance.	
			Vicinity of Laysan Id.—Cont'd.	° F.	° F.	° F.	Fms.			Fms.	Hr. M.			
D. 3954	May 21	{ 4.10 p. m. 4.23 p. m.	{ Laysan Island Light, S. 14° W, 6.4'.	77	75	73.0	30	wh. s. p. r.	Tnr. S. M.					Framework badly bent
				77	75	73.0	30-20	wh. s. p. r.	Oyster Dr.	Bottom.	0 2	S. 25° W.	0.1	
D. 3955	May 21	{ 4.31 p. m. 4.39 p. m.	{ Laysan Island Light, S. 12° 30' W. 6.1'.	77	75	74.0	20	co. r. alg.	Tnr. S. M.					Lost frame, net, float, etc.
				77	75	74.0	20-30	co. r. alg.	7 Hp. Tgls.	Bottom.	15	S. 77° E.	.2	
D. 3956	May 22	{ 8.36 a. m. 8.56 a. m.	{ Laysan Island Light, E. 7.9'.	80	76	61.1	135	crs. wh. s. r.	Sig. S. M.					Lost frame, net, float, etc.
				80	76	61.1	135-96	crs. wh. s. r.	11' Tnr	Bottom.	8	N. 1° W.	.2	
D. 3957	May 22	{ 9.44 a. m. 10.11 a. m.	{ Laysan Island Light, S. 87° E, 8.2'.	81	76	53.5	220	fne. wh. s.	Sig. S. M.					Lost frame, net, float, etc.
				81	76	53.5	220-173	fne. wh. s.	8' Tnr	Bottom.	28	N. 7° E.	.7	
D. 3958	May 22	{ 11.03 a. m. 11.32 a. m.	{ Laysan Island Light, S. 76° 30' E. 8.2'.	81	76	59.0	173	crs. wh. s.	Sig. S. M.					Lost frame, net, float, etc.
				81	76	59.0	173-182	crs. wh. s.	8' Tnr	Bottom.	20	S. 20° W.	.4	
D. 3959	May 22	{ 1.45 p. m. 1.47 p. m.	{ Laysan Island Light, N. 75° E, 1.3'.	80	78		10	wh. s. co.	{ Hand lead 6 Hp. Tgls.	Bottom.	3	S. 32° W.	.1	Lost frame, net, float, etc.
D. 3960	May 22	{ 2.18 p. m. 2.20 p. m.	{ Laysan Island Light, N. 67° E, 1.5'.	81	76		10	s. sh. co.	Hand lead.					Lost frame, net, float, etc.
				81	76		10-19	s. sh. co.	6 Hp. Tgls.	Bottom.	15	S. 55° W.	.5	
D. 3961	May 22	{ 2.48 p. m. 2.55 p. m.	{ Laysan Island Light, N. 57° E, 3.5'.	81	76		19	s. sh. co. r.	Hand lead.					Frame wrecked; bag and net lost.
				81	76		19-15	s. sh. co. r.	Sh. Dr.	Bottom.	13	S. 58° W.	.5	
D. 3962	May 22	{ 3.27 p. m. 3.41 p. m.	{ Laysan Island Light, N. 56° E, 5.2'.	75	77		16	wh. s. co.	{ Hand lead 6 Hp. Tgls.	Bottom.	16	S. 58° W.	.6	Lost frame, net, float, etc.
D. 3963	May 22	{ 4.10 p. m. 4.36 p. m.	{ Laysan Island Light, N. 56° 30' E. 6.6'.	75	77	73.7	319	wh. s. brk. sh.	{ Tnr. S. M. 6 Hp. Tgls.	Bottom.	5	N. 30° E.	.1	Lost oyster dredge; iron bridle eyes opened and drew off shackle pin. Mast accumulator damaged.
D. 3964	May 22	{ 4.54 p. m. 5.03 p. m.	{ Laysan Island Light, N. 59° E, 6.0'.	76	76		44	{ fne. wh. s. brk. sh. r.	{ Tnr. S. M. Oyster Dr.	Bottom.	5	N. W.	.1	Lost oyster dredge; iron bridle eyes opened and drew off shackle pin. Mast accumulator damaged.
D. 3965	May 23	{ 9.30 a. m. 9.49 a. m.	{ Laysan Island Light, S. 83° E, 8.1'.	78	75	63.0	147	Co. s.	Sig. S. M.					Lost oyster dredge; iron bridle eyes opened and drew off shackle pin. Mast accumulator damaged.
				78	75	63.0	147-116	Co. s.	8' Tnr	Bottom.	20	N. 20° E.	.5	

D. 3966	May 23	10.25 a. m.	Laysan Island Light, S. 73° E. 7.9'.	76	75	58.6	116	crs. co. s.	Sig. S. M.					
		10.44 a. m.		76	75	58.6	116-168	crs. co. s.	8' Tnr. Bottom.	20	N. 56° W.	.4		
D. 3967	May 23	11.18 a. m.	Laysan Island Light, S. 71° E. 8.7'.	76	75	58.5	168	crs. co. s. brk. sh. r.	Sig. S. M.					
		11.43 a. m.		76	75	58.5	168-177	crs. co. s. brk. sh. r.	8' Tnr. Bottom.	32	N. 2° W.	.8	Very heavy strains; frame badly bent, and apron torn to ribbons.	
				<i>French Frigate Shoal.</i>										
				Lat. N.	Long. W.									
				o' "	o' "									
D. 3968	May 29	8.21 a. m.	23 46 00	166 18 58	73	75		144	crs. s. co.	Hand lead				
		8.25 a. m.			73	75		144-163	crs. s. co.	6 Hp. Tgls. Bottom.	15	N. 68° W.	.8	Lost one swab.
D. 3969	May 29	8.55 a. m.	23 45 50	166 20 15	74	74		15	crs. s. sh. co.	Hand lead				
		9.02 a. m.			74	74		15-16	crs. s. sh. co.	5 Hp. Tgls. Bottom.	15	N. 68° W.	.4	
D. 3970	May 29	9.38 a. m.	23 45 50	166 20 50	74	74		17	crs. s. sh. co.	Hand lead				
		9.44 a. m.			74	74		17-171	crs. s. sh. co.	5 Hp. Tgls. Bottom.	15	N. 68° W.	.6	
D. 3971	May 29	10.14 a. m.	23 46 05	166 21 45	72	76		17	crs. s. sh. co.	Hand lead				
		10.20 a. m.								5 Hp. Tgls. Bottom.	15	N. 68° W.	.5	Do.
						approx.								
D. 3972	May 29	11.04 a. m.	23 46 20	166 23 55	71	76		100	crs. s. co.	Tnr. S. M.				
														Depth estimated; wire tending off at large angle.
D. 3973	May 29	11.42 a. m.	23 47 10	166 24 55	71	76		100-574	crs. s. co.	4 Hp. Tgls. Bottom.	11	W	.2	
		12.33 p. m.			73	76	41.0	395	crs. co. s. sh. co. r.	Sig. S. M.				
D. 3974	May 29	1.12 p. m.	23 49 30	166 25 55	73	76	41.0	395-397	crs. co. s. sh. co. r.	5 1/2 Blk. Bottom.	5	N. 17° W.	.2	Bridle stops parted; net capsized.
		1.43 p. m.			75	76	41.2	397	fine. co. s. glob. oz.	Sig. S. M.				
D. 3974	May 29	2.10 p. m.	23 49 30	166 25 55	75	76	41.2	397-414	fine. co. s. glob. oz.	4 Hp. Tgls. Bottom.	24	N. 17° W.	.5	
				<i>Necker Island Shoal and to Bird Id., or Modu Manu.</i>										
D. 3975	May 31	3.10 p. m.	23 30 00	164 41 00	77	75		16	crs. s. co. sh.	Tnr. S. M.				
		3.17 p. m.			77	75		16-171	crs. s. co. sh.	4 Hp. Tgls. Bottom.	15	S	.5	Probably on bottom but part of time.
D. 3976	May 31	3.40 p. m.	23 29 00	164 41 00	77	75		171	crs. s. co.	Tnr. S. M.				
		3.57 p. m.			77	75		171-503	crs. s. co.	4 Hp. Tgls. Bottom.	11	S	.3	No evidence of having been on bottom.
				<i>Vicinity of Modu Manu, or Bird Id.</i>										
D. 3977	June 2	2.51 p. m.	(Center of Bird Island, S. 75° E. 11.2'.	78	75	58.0	876	fine. co. s. for. r.	(Sig. S. M. 5 1/2 Blk.)	Bottom.	18	S. 35° E.	.3	Very heavy strains, but no damage.
		3.57 p. m.												
D. 3978	June 3	8.25 a. m.	(Center of Bird Island, N. 14° E. 2.2'.	76	74		32	co. s. for. r.	Tnr. S. M.					
		8.34 a. m.		76	74		32-46	co. s. for. r.	4 Hp. Tgls. Bottom.	16	S	.4	Lost one swab.	
D. 3979	June 3	12.53 p. m.	(Center of Bird Island, N. 64° 30' E. 11.0'.	77	75	54.0	222	fine. wh. s. for. r.	Sig. S. M.					
		1.49 p. m.		77	75	54.0	222-387	fine. wh. s. for. r.	5 1/2 Blk. Bottom.	30	S	.2	Very heavy strains, but no damage.	

Record of the dredging and other collecting stations of the Albatross in 1902—Continued.

Station No.	Date.	Time of day.	Position.		Temperatures.			Depth.	Kind of bot- tom.	Instrument used.	Trawl.		Drift.		Remarks.
			Lat. N.	Long. W.	Air.	Sur- face.	Bot- tom.				Depth.	Length.	Direction.	Dis- tance.	
			<i>Between Honolulu and Kauai Id.</i>												
D. 3980	1902. June 9	7.01 p. m.	21 23 00	158 19 00	79	77	.....	Fms. (Did not sound.)	2 Surf. N., 1 on each side.	Surface.	Fms. 1 11	N. 67° W.	2	14 hauls (7 simultaneously each side).
			<i>Vicinity of Kauai Island.</i>												
D. 3981	June 10	7.57 a. m.			83	77	(?)	636	glob. oz.	Sig. S. M.				Bottom temperature re- corded 76.0° (?).	
		8.20 a. m.	Nawiliwili Light, N. 82°, W. 4.2'.		83	77	.....		glob. oz.	Surf. N.	Surface.	35 W	1	2 hauls.
		8.48 a. m.			83	77	.....	636-414	glob. oz.	9 Hp. Tgls.	Bottom.	10 W	.2	
D. 3982	June 10	10.05 a. m.	Nawiliwili Light, N. 68°, W. 1.6'.		84	78	48.5	233	crs. br. co. s. sh.	Sig. S. M.					
		10.23 a. m.			84	78	48.5	233-40	crs. br. co. s. sh.	9 Hp. Tgls.	Bottom.	10 N. 87° W.	.2		
D. 3983	June 10	11.39 a. m.	Nawiliwili Light, S. 76°, W. 3.7'.		83	79	39.1	506	glob. oz. r.	Sig. S. M.					
		12.11 p. m.			83	79	39.1	506-378	glob. oz. r.	8' Tur.	Bottom.	7 N. 59° W.	.1	Bridle stops parted; net capsized.	
D. 3984	June 10	1.31 p. m.	Nawiliwili Light, N. 30° 30', W. 3.5'.		84	78	47.0	237	fine. co. s.	Sig. S. M.					
		1.58 p. m.			84	78	47.0	237-164		9 Hp. Tgls.	Bottom.	16 N. 36° W.	.3		
		3.58 p. m.	Hanamaulu ware- house, S. 58° 30', W. 6.0'.		85	78	40.0	477	gy. s. for. shore deposit.	Sig. S. M.					
D. 3985	June 10	4.36 p. m.			85	78	40.0	477-430	gy. s. for. shore deposit.	8' Tur.	Bottom.	20 N. 27° W.	.2	Glass float smashed to pieces.	
		8.33 a. m.	Hanamaulu ware- house, S. 37° 30', W. 6.5'.		78	76	41.8	362	gy. s. for. shore deposit.	Sig. S. M.					
D. 3986	June 11	9.06 a. m.			78	76	41.8	362-55	gy. s. for. shore deposit.	8' Tur.	Bottom.	15 NW	.2	Heavy strains, but no damage.	
		9.32 a. m.	Hanamaulu ware- house, S. 29°, W. 6.8'.		78	77	73.0	55	crs. co. s. co. frag.	Sig. S. M.					
D. 3987	June 11	10.03 a. m.			78	77	73.0	55-30	crs. co. s. co. frag.	9 Hp. Tgls.	Bottom.	13 N. 21° W.	.7		
		1.17 p. m.	Hanamaulu ware- house, S. 21°, W. 12.6'.		80	77	40.0	469	gy. for. s. p.	Sig. S. M.					
D. 3988	June 11	1.52 p. m.			80	77	40.0	469-165	gy. for. s. p.	8' Tur.	Bottom.	20 N. 57° W.	.8		
		4.37 p. m.	Hanamaulu ware- house, S. 33°, W. 9.5'.		82	78	37.5	733	co. s. r.	Sig. S. M.					
D. 3989	June 11	5.13 p. m.			82	78	37.5	500-385	co. s. r.	8' Tur.	Bottom.	20 S. 72° W.	.3	Estimated that net took bot- tom in about 500 fathoms.	
		7.39 a. m.	Mokuacae Islet, S. 78°, W. 5.2'.		78	76	42.1	326	gy. s. for. r.	Sig. S. M.					
D. 3990	June 12	8.09 a. m.			78	76	42.1	326-296	gy. s. for. r.	8' Tur.	Bottom.	4 N. 68° W.	.1	One runner broken from beam; net badly torn.	
		8.48 a. m.	Mokuacae Islet, S. 66°, W. 4.0'.		80	79	43.7	296	fine. s. r.	Sig. S. M.					
D. 3991	June 12	9.12 a. m.			80	79	43.7	296-272	fine. s. r.	9 Hp. Tgls.	Bottom.	5 N. 82° W.	.1	Heavy strains, but no damage.	

D. 3992	June 12	1.16 p. m. 1.51 p. m.	Mokuaeae Islet, S. 54°, E. 3.5'	79	77	39.6	528	fne. gy. s. m.	Sig. S. M. 8' Tnr	Bottom.	4	S. 73° W.	1	Heavy strains at once; net filled with mud; net slightly torn. Net took bottom in less depth than shown by sounding and did not sound again. Estimated that net was dragged at depths between 500 and 400 fathoms.
D. 3993	June 12	3.18 p. m. 3.56 p. m.	Mokuaeae Islet, S. 62° 30', E. 6.7'	78	77	50.0	218	fne. gy. s.	Sig. S. M. 5 1/2' Blk	Bottom.	4	N. 78° W.	1	Heavy strains, but no damage.
D. 3994	June 12	4.51 p. m. 5.18 p. m.	Mokuaeae Islet, S. 63°, E. 10.2'	78	77	42.9	330-382	fne. gy. s. for	Sig. S. M. 5 1/2' Blk	Bottom.	15	N. 67° E.	3	
D. 3995	June 13	7.34 a. m. 8.14 a. m.	Mokuaeae Islet, S. 69° 30', E. 11.5'	75	76	40.6	427	fne. gy. s. r.	Sig. S. M. 5 1/2' Blk	Bottom.	17	N. 83° W.	8	Apron lost; net torn slightly.
D. 3996	June 13	9.42 a. m. 10.52 a. m.	Kapuai Point, S. 28° 15', W. 15.5'	86	77	36.1	1,021	gy. s. r.	Sig. S. M. 8' Tnr	Bottom.	13	S. 87° W.	4	Box broken from one runner; frame wrenched.
D. 3997	June 14	7.40 a. m. 8.16 a. m. 8.29 a. m.	Ukula Point, S. 79° 15', E. 7.0'	81	75	41.0	418	fne. gy. s. br. m.	Sig. S. M. 8' Tnr	Bottom.	30	S. 72° W.	6	
				81	75	41.0	418-429	fne. gy. s. br. m.	Surf. N.	Surface.	17	S. 72° W.	3	2 hauls.
				84	78	47.0	235	crs. br. co. s.	Sig. S. M.					
D. 3998	June 14	9.51 a. m. 10.34 a. m.	Ukula Point, S. 71°, E. 9.7'	84	78	47.0	235-228	sh. r. crs. br. co. s. sh. r.	8' Tnr	Bottom.	40	S. 86° E.	1.4	Frame badly bent; one runner torn from box, which was broken.
D. 3999	June 16	7.32 a. m. 7.42 a. m.	Ukula Point, S. 51° 30', E. 4.9'	76	77	.....	7	co. s. sh.	Hand lead.					
				76	77	.....	7-148	co. s. sh.	9 Hp. Tgls	Bottom.	20	N. 83° W.	3	Strong westerly set encountered.
D. 4000	June 16	9.27 a. m. 9.54 a. m.	Kapuai Point, N. 21°, E. 4.8'	91	78	53.6	213	co. s. for.	Sig. S. M. 8' Tnr	Bottom.	15	N. 18° E.	3	
D. 4001	June 16	11.21 a. m. 11.43 a. m.	Kapuai Point, N. 88° 30', E. 3.8'	83	78	44.3	277	co. s.	Sig. S. M. 8' Tnr, Sh. Dr.	Bottom.	12	N. E.	3	
				80	78	47.1	230	fne. co. s. glob.	Sig. S. M.					
D. 4002	June 16	12.25 p. m. 12.44 p. m.	Kapuai Point, S. 73°, E. 3.0'	80	78	47.1	230-53	co. fne. co. s. glob. co.	8' Tnr, Sh. Dr.	Bottom.	30	N. 53° E.	8	Bridle on side ship's dredge parted; nothing lost.
				83	78	38.0	751	fne. s. br. m.	Sig. S. M.					
D. 4003	June 16	4.11 p. m. 4.57 p. m.	Kapuai Point, S. 10°, E. 10.5'	83	78	38.0	751-406	glob. r. fne. s. br. m. glob. r.	8' Tnr	Bottom.	20	S. 30° E.	2	Lost all except fragments of net, bridle, etc.
D. 4004	June 17	7.57 a. m. 8.55 a. m.	Ukula Point, N. 86°, E. 5.0'	76	78	37.5	773	br. m. r.	Sig. S. M.					
				76	78	37.5	773-645	br. m. r.	8' Tnr	Bottom.	23	S. 63° E.	5	Do.
				80	78	39.2	577	fne. gy. s. for.	Sig. S. M.					
D. 4005	June 17	10.52 a. m. 11.40 a. m.	Ukula Point, N. 60°, W. 2.2'	80	78	39.2	577-480	r. fne. gy. s. for. r.	8' Tnr	Bottom.	30	S. 67° E.	8	Do.

P. C. 1,902-27

Record of the dredging and other collecting stations of the Albatross in 1902—Continued.

Station No.	Date.	Time of day.	Position.	Temperatures.			Depth.	Kind of bot- tom.	Instrument used.	Tide.		Drift.		Remarks.
				Air.	Sur- face.	Bot- tom.				Depth.	Length.	Direction.	Dis- tance.	
				° F.	° F.	° F.	Fms.			Fms.	Hr. M.			
D. 4006	1902. June 17	{ 1.08 p. m. 1.40 p. m. }	{ Between Honolulu and Kauai Is- land—Cont'd. Ukula Point, N., 62° W. 4.5' }	80	77	47.5	242	co. s. for. r....	Sig. S. M.....					
				80	77	47.5	242-57	co. s. for. r....	8' Tnr.....	Bottom.	0 4	N. 72° E...	0.1	Frame badly bent; net wrecked.
D. 4007	June 17	{ 3.01 p. m. 3.50 p. m. 5.15 p. m. }	{ Ukula Point, N., 65° 30' W. 7.4' }	81	76	40.0	508	gy. s. for.....	Sig. S. M.....					
				81	76	40.0	508-557	gy. s. for.....	3 1/2' Blk.....	Bottom.	14	S. 73° E...	.4	
				80	76	50.0	206	fne. co. s. brk. sh. for. r.	Sig. S. M.....					
D. 4008	June 17	{ 5.42 p. m. }	{ Ukula Point, N., 89° 45' W. 10.7' }	80	76	50.0	206-198	fne. co. s. brk. sh. for. r.	6 1/2' Blk.....	Bottom.	16	N. 63° E...	.2	Frame bent; bridle stops parted one side; net slightly torn.
			{ Between Kauai and Oahu islands. Lat. N. | Long. W. o " " | o " " }											
D. 4009	June 17	6.48 p. m.	21 50 30 | 159 15 00	79	76	.....		(Did not sound.)	2 Surf. N.; 1 on each side.	Surface.	1 11	S. 62° E...	3	14 hauls (7 each side simul- taneously).
D. 4010	June 17	11.06 p. m.	21 35 00 | 158 50 00	77	76	.....		(Did not sound.)	2 Surf. N.; 1 on each side.	Surface.	30	S. 62° E...	2	6 hauls (3 each side simul- taneously).
D. 4011	June 18	{ 4.03 a. m. 4.06 a. m. }	21 20 00 | 158 21 00	77	77	.....		(Did not sound.)	{ Surf. N.; stbd. side. Surf. N.; port side.	Surface.	20	S. 62° E...	1	2 hauls; net torn last haul.
										Surface.	43	S. 62° E...	2	4 hauls; net torn last haul.
			{ Vicinity of Kauai Island. Hanamaulu ware- house, N. 21° 45', W. 6.8' }											
D. 4012	June 20	{ 6.06 a. m. 7.50 a. m. }	{ Hanamaulu ware- house, N. 21° 45', W. 6.8' }	74	76	35.9	1,219	yl. s. for. r....	{ Sig. S. M..... 6 1/2' Blk.....	Bottom.	17	N. 60° W..	.3	Dredging cable parted; lost 1,066 fms. cable, 250 pounds sinker, complete Blake beam-trawl frame and net, etc.; mast accumu- lator badly bent and bracket damaged.
D. 4013	June 20	{ 11.27 a. m. 11.59 a. m. }	{ Hanamaulu ware- house, N. 82° 45', W. 3.7' }	77	75	41.0	419	fne. gy. s. for.	Sig. S. M.....					
				77	75	41.0	419-399	.....	8' Tnr.....	Bottom.	12	N. 59° W..	.2	
D. 4014	June 20	{ 12.39 p. m. 1.17 p. m. }	{ Hanamaulu ware- house, N. 85° W. 3.4' }	77	75	40.8	399	s. for.....	Sig. S. M.....					
				77	75	40.8	399-362	s. for.....	8' Tnr.....	Bottom.	10	N. 53° W..	.2	

D. 4015	June 20	1.57 p. m.	Hanamaulu ware- house, S. 82° W, 2.6'.	77	72	41.2	362	gy. s. r.	Sig. S. M.						
		2.30 p. m.		77	72	41.2	362-318	gy. s. r.	8' Tnr	Bottom.	13	N. W. ....	.2	Net slightly torn.
D. 4016	June 20	3.14 p. m.	Hanamaulu ware- house, S. 82° W, 2.2'.	78	74	42.9	318	bk. s.	Sig. S. M.						
		3.46 p. m.		78	74	42.9	318-305	bk. s.	8' Tnr	Bottom.	12	N. 16° W. .	.1		
D. 4017	June 20	4.28 p. m.	Hanamaulu ware- house, S. 45° 45', W. 24'.	77	75	43.3	305	gy. s.	(Sig. S. M. 8' Tnr	Bottom.	8	N. 29° W. .	.1		
		7.16 a. m.		74	75	37.3	804	for. s. mang. frag.	Sig. S. M.						
D. 4018	June 21	8.04 a. m.	Hanamaulu ware- house, S. 57° W, 7.4'.	74	75	.....	.....	.....	Surf. N.	Surface.	20	N. 29° W. .	.2	2 hauls.
		8.11 a. m.		74	75	37.3	804-724	for. s. mang. frag.	8' Tnr	Bottom.	33	N. 20° W. .	.4		
D. 4019	June 21	9.37 a. m.	Hanamaulu ware- house, S. 43° W, 8.1'.	79	75	37.8	724	gy. s. for. r.	Sig. S. M.						
		10.14 a. m.		79	75	37.8	550-409	gy. s. for. r.	8' Tnr	Bottom.	19	N. 35° W. .	.5	Frame bent slightly; net took bottom at depth esti- mated to be about 550 fms.	
D. 4020	June 21	11.01 a. m.	Hanamaulu ware- house, S. 33° W, 8.5'.	81	75	41.0	409	co. s.	Sig. S. M.						
		11.33 a. m.		81	75	41.0	409-286	co. s.	8' Tnr	Bottom.	29	N. 7° W. .	.7		
D. 4021	June 21	12.13 p. m.	Hanamaulu ware- house, S. 28° 30', W. 9.5'.	81	75	44.0	286	co. s. for.	Sig. S. M.						
		12.42 p. m.		81	75	44.0	286-399	co. s. for.	10' Blk	Bottom.	23	N. E. ....	.3	
D. 4022	June 21	1.25 p. m.	Hanamaulu ware- house, S. 30° W, 10.2'.	80	74	41.0	399	co. s. for. r.	Sig. S. M.						
		2.01 p. m.		80	74	41.0	399-374	co. s. for. r.	10' Blk	Bottom.	36	N. 50° W. .	.2	Frame caught on bottom and badly bent.	
D. 4023	June 23	12.57 p. m.	Mokuaeae Islet, N. 85° 30', E. 6.2'.	80	75	18	gy. s. for. co. r.	Tnr. S. M.						
		1.08 p. m.		80	75	.....	18-41	gy. s. for. co. r.	10' Blk	Bottom.	20	N. 23° W. .	.7	Net badly torn; bridle stops parted one side.
D. 4024	June 23	1.49 p. m.	Mokuaeae Islet, S. 83°, E. 7.6'.	75	75	73.7	24	ers. co. s. for.	Sig. S. M.						
		2.22 p. m.		75	75	73.7	24-43	ers. co. s. for.	9 Hp. Tgls	Bottom.	11	N. 63° W. .	.7		
		3.16 p. m.		76	75	44.9	276	fne. gy. s. brk. sh. for.	Sig. S. M.						
D. 4025	June 23	3.50 p. m.	Mokuaeae Point, S. 66°, E. 10.4'.	76	75	44.9	275-368	fne. gy. s. brk. sh. for.	8' Tnr	Bottom.	24	N. 11° W. .	.3		
D. 4026	June 23	4.31 p. m.	Mokuaeae Point, S. 61° 30', E. 11.0'.	79	75	41.2	368	fne. gy. s.	Sig. S. M.						
		5.16 p. m.		79	75	41.2	368- 1,021	fne. gy. s.	8' Tnr	Bottom.	21	W. ....	.7	Depth increased quickly; results very meager; net probably on bottom but few moments—first part.
D. 4027	June 24	6.44 a. m.	Ukula Point, S. 74°, E. 6.0'	77	77	42.8	319	fne. gy. s. r.	Sig. S. M.						
		7.04 a. m.		77	77	.....	.....	fne. gy. s. r.	Surf. N.	Surface.	17	N. 57° W. .	.2	2 hauls.
		7.13 a. m.		77	77	42.8	319-319	fne. gy. s. r.	10' Blk	Bottom.	21	N. 57° W. .	.3	Net badly torn.	
D. 4028	June 24	9.16 a. m.	Ukula Point, S. 82° 30', E. 10.2'.	83	78	40.0	444	gy. s. glob.	Sig. S. M.						
		10.23 a. m.		83	78	40.0	444-478	gy. s. glob.	8' Tnr	Bottom.	12	S. 29° W. .	.3		
D. 4029	June 24	11.16 a. m.	Ukula Point, S. 86°, E. 11.0'.	86	78	40.0	478	gy. s. glob.	Sig. S. M.						
		11.50 a. m.		86	78	40.0	478-453	gy. s. glob.	8' Tnr	Bottom.	20	S. 40° W. .	.3		
D. 4030	June 24	1.19 p. m.	Ukula Point, S. 82° 30', E. 13.1'.	82	76	41.0	423	fne. co. s. for. r.	Sig. S. M.						
		3.06 p. m.		82	76	41.0	423-436	fne. co. s. for. r.	8' Tnr	Bottom.	13	S. 55° W. .	.1	Wire jumped reel; cut out 2 fathoms and spliced. Frame bent; bridle stops parted; net capsized.	

Record of the dredging and other collecting stations of the Albatross in 1902—Continued.

Station No.	Date.	Time of day.	Position.	Temperatures.				Depth.	Kind of bot- tom.	Instrument- used.	Trawl.		Drift.		Remarks.
				Air.	Sur- face.	Bot- tom.	Fms.				Depth.	Length.	Direction.	Dis- tance.	
			Penguin Bank, South coast of Oahu Island.	° F.	° F.	° F.	Fms.			Fms.	Hr. M.				
D. 4031	July 9	6.31 p. m. 6.40 p. m.	Diamond Head Light, N. 20° W. 18.0'.	80	76	.....	27	fne. co. s. for. co.	Sig. S. M	Bottom.	0 17	N. 80° W.	0.3	
D. 4032	July 9	7.27 p. m. 7.38 p. m.	Diamond Head Light, N. 19° W. 20.0'.	79	78	.....	27	fne. co. s. for.	Tnr. S. M	Bottom.	15	S. 23° E.	2	
D. 4033	July 9	8.01 p. m. 8.39 p. m.	Diamond Head Light, N. 19° W. 20.8'.	79	78	.....	29	fne. co. s. for.	Tnr. S. M	Bottom.	20	S. 23° E.	4	
D. 4034	July 9	9.07 p. m. 9.34 p. m.	Diamond Head Light, N. 19° W. 21.3'.	79	78	.....	28	fne. co. s. for.	Tnr. S. M	Bottom.	21	S. 23° E.	4	
D. 4035	July 9	10.14 p. m. 10.37 p. m.	Diamond Head Light, N. 21° W. 23.0'.	78	78	.....	32	crs. co. s. sh. for.	Tnr. S. M	Bottom.	20	S. 23° E.	3	Depth increased rapidly; gear probably on bottom but few moments during first part.
			West coast of Hawaii Island.												
D. 4036	July 10	3.56 p. m. 4.57 p. m.	Kawaihae Light, S. 80° E. 24.2'.	89	78	38.2	687	fne. dk. gy. s. for.	Sig. S. M	Bottom.	34	N. 06° E.	3		
D. 4037	July 10	6.32 p. m. 6.47 p. m. 7.37 p. m.	Kawaihae Light, S. 78° E. 23.0'.	87	80	38.1	692	gy. m. for. r. for.	Sig. S. M Surf. N	Surface.	50	N. 13° E.	5	5 hauls.	
				87	80	.....	692-689	gy. m. for. r. for.	5/4 Blk	Bottom.	21	N. 13° E.	2	Frame wrenched; net torn; bridle stops parted; net capsized; results very meager
D. 4038	July 10	9.21 p. m. 10.26 p. m.	Kawaihae Light, S. 75° 30' E. 23.0'.	80	76	38.5	689	gy. m. for.	Sig. S. M	Bottom.	20	N. 70° W.	3		
D. 4039	July 10 July 11	11.42 p. m. 12.43 a. m.	Kawaihae Light, S. 75° 30' E. 24.9'.	80	76	38.7	670	gy. m. for.	Sig. S. M	Bottom.	33	N. 27° E.	3		
D. 4040	July 11	2.19 a. m. 3.21 a. m.	Kawaihae Light, S. 73° 45' E. 25.5'.	78	77	38.7	697	gy. m. for.	Sig. S. M	Bottom.	23	N. 16° E.	2		
D. 4041	July 11	9.22 a. m. 9.49 a. m.	Kawaihae Light, S. 67° 30' E. 10.0'.	83	77	41.6	382	gy. m. for.	Sig. S. M	Bottom.	22	S. 53° E.	5		
				83	77	41.6	382-253	gy. m. for.	8' Tnr	Bottom.	22	S. 53° E.	5		

D. 4042	July 11	10.42 a.m.	Kawaihae Light, S. 74° 30', E. 8.1'.	80	77	45.9	253	gy. m. for. r.	Sig. S. M.						
		11.03 a.m.		80	77	45.9	230-223	gy. s. for. r.	8' Tur	Bottom.	8	S. 48° E.	.1	Lost complete frame and net; bridles, etc., only saved.	
D. 4043	July 11	12.12 p.m.	Kawaihae Light, S. 74° 30', E. 5.9'.	82	77	46.9	236	gy. s. brk. sh. r.	Sig. S. M.						
		12.35 p.m.		82	77	46.9	230-233	gy. s. brk. sh. r.	5 1/2' Blk.	Bottom.	24	S. 38° E.	.3	Frame bent; apron lost; net badly torn.	
D. 4044	July 11	1.19 p.m.	Kawaihae Light, S. 80° 30', E. 5.2'.	85	77	47.0	233	fine. gy. s.	Sig. S. M.						
		1.46 p.m.		85	77	47.0	233-198	fine. gy. s.	8 Hp. Tgls.	Bottom.	21	S. 39° E.	.5		
D. 4045	July 11	2.28 p.m.	Kawaihae Light, N. 82° 30', E. 4.1'.	86	78	49.0	198	co. s. for.	Sig. S. M.						
		2.53 p.m.		86	78	49.0	198-147	co. s. for.	8 Hp. Tgls.	Bottom.	20	S. 40° E.	.7		
D. 4046	July 11	3.32 p.m.	Kawaihae Light, N. 52° E. 3.4'.	85	78	59.0	147	co. s. for.	Sig. S. M.						
		3.47 p.m.		85	78	59.0	147-71	co. a. for.	8 Hp. Tgls.	Bottom.	20	S. 30° E.	.7		
D. 4047	July 11	5.14 p.m.	Kawaihae Light, N. 64° E. 8.5'.	85	78	47.6	217	fine. co. s. r.	Sig. S. M.						
		5.41 p.m.		85	78	47.6	217-232	fine. co. s. r.	8' Tur	Bottom.	7	N. 14° W.	.1	Bag of net badly torn.	
D. 4048	July 11	7.33 p.m.	Kawaihae Light, S. 71° 30', E. 9.5'.	82	78	41.7	574	fine. gy. s. r.	(Sig. S. M.) 8' Tur						
		8.13 p.m.		82	78	41.7	574	fine. gy. s. r.	8' Tur	Bottom.	26	N. 25° W.	.3	Lost 375 fms. dredging cable, 250-pound sinker; 8' Tanner beam-trawl frame net complete; mast accumulator slightly damaged.	
D. 4049	July 11	10.00 p.m.	Kawaihae Light, S. 65° 30', E. 10.6'.	79	78	41.0	456	fine. co. s. for.	Sig. S. M.						
		10.47 p.m.		79	78	41.0	456-532	fine. co. s. for.	8 Hp. Tgls.	Bottom.	33	S. 75° W.	.5		
D. 4050	July 14	7.24 a.m.	Kealakekua Light, N. 10° W. 0.5'.	78	78	.....	14	frag. co. r.	Tur. S. M.						
		7.31 a.m.		78	78	.....	14-215	frag. co. r.	8 Hp. Tgls.	Bottom.	20	West	.8	Evidently on bottom but short time; depth increased.	
D. 4051	July 14	7.59 a.m.	Kealakekua Light, N. 63° E. 1.2'.	83	79	.....	215	vol. r.	Tur. S. M.						
		8.23 a.m.		83	79	.....	215-256	vol. r.	8 Hp. Tgls.	Bottom.	27	N. 57° W.	.5		
D. 4052	July 14	9.19 a.m.	Kealakekua Light, East 1.9'.	84	79	46.0	256	co. s. vol. r.	(Sig. S. M.) 5 1/2' Blk.						
		9.31 a.m.		84	79	46.0	256	co. s. vol. r.	5 1/2' Blk.	Bottom.	2	None	.....	Heavy strains at once; lost everything except bridle, etc., and fragment of bottom of net.	
<i>Northeast coast of Hawaii Island.</i>															
D. 4053	July 16	7.47 a.m.	Alia Point Light (Hilo Bay), N. 4° W. 5.7'.	81	75	.....	29	fine. gy. s.	Tur. S. M.						
		7.57 a.m.		81	75	.....	29-26	fine. gy. s.	8 Hp. Tgls.	Bottom.	23	N. 12° E.	.8		
D. 4054	July 16	8.24 a.m.	Alia Point Light (Hilo Bay), N. 8° 30', W. 4.4'.	83	74	.....	26	ers. co. s. corin.	Tur. S. M.						
		8.30 a.m.		83	74	.....	26-50	ers. co. s. corin.	8 Hp. Tgls.	Bottom.	21	N. 26° E.	.8		
D. 4055	July 16	8.55 a.m.	Alia Point Light (Hilo Bay), N. 20° W. 3.5'.	83	76	.....	50	fine. gy. s. for.	Tur. S. M.						
		9.05 a.m.		83	76	.....	50-62	fine. gy. s. for.	8 Hp. Tgls.	Bottom.	22	North	.....	.8	
D. 4056	July 16	9.32 a.m.	Alia Point Light (Hilo Bay), N. 28° W. 2.6'.	77	76	.....	62	co. corin.	Tur. S. M.						
		9.39 a.m.		77	76	.....	62-77	co. corin.	8 Hp. Tgls.	Bottom.	21	N. 10° E.	.8		
D. 4057	July 16	10.07 a.m.	Alia Point Light (Hilo Bay), N. 43° 45', W. 2'.	76	76	.....	77	fine. gy. s. sh.	Tur. S. M.						
		10.14 a.m.		76	76	.....	77-75	fine. gy. s. sh.	8 Hp. Tgls.	Bottom.	25	N. 10° W.	.8		

Record of the dredging and other collecting stations of the Albatross in 1902—Continued.

Station No.	Date.	Time of day.	Position.	Temperatures.				Depth.	Kind of bot- tom.	Instrument used.	Trawl.		Drift.		Remarks.
				Air.	Sur- face.	Bot- tom.	Fms.				Depth.	Length.	Direction.	Dis- tance.	
	1902.		Northeast coast of Hawaii Id.—C' d.	° F.	° F.	° F.	Fms.			Fms.	Hr. M.				
D. 4058	July 16	(11.55 a.m. 12.20 p.m.)	Alia Point Light (Hilo Bay), N. 87° W. 5.6'	80	76	49.8	195	rky.....	Sig. S. M.....						
				80	76	49.8	195-190	rky.....	8 Hp. Tgls.....	Bottom.	0 10	S.W.....	0.4		
D. 4059	July 16	(1.24 p.m. 1.46 p.m.)	Alia Point Light (Hilo Bay), N. 67° 15', W. 8.4'	83	77	44.0	291	vol. s.....	Sig. S. M.....						
				83	77	44.0	291-190	vol. s.....	5½' Blk.....	Bottom.	4	N. 64° W. .	.1		
D. 4060	July 16	(2.47 p.m. 4.03 p.m.)	Alia Point Light (Hilo Bay), N. 70° 15', W. 10.2'	80	77	36.5	913	fine. gy. vol. s. for. r.	Sig. S. M.....						
				80	77	36.5	913-759	fine. gy. vol. s. for. r.	5¼' Blk.....	Bottom.	17	N. 6° W. .	.2	Net slightly torn.	
D. 4061	July 18	(8.00 a.m. 8.10 a.m.)	Kauhola Light, S. 79°, E. 6.7'	78	77	.....	24	co. s. corln. nod. for.	Tnr. S. M.....					
				78	77	.....	24-83	co. s. corln. nod. for.	8 Hp. Tgls.....	Bottom.	21	N. 3° E. .	.8	
D. 4062	July 18	(8.37 a.m. 8.49 a.m.)	Kauhola Light, S. 69° 15', E. 6.9'	78	77	.....	83	co. vol. s. sh. for.	Tnr. S. M.....					
				78	77	.....	83-113	co. vol. s. sh. for.	8 Hp. Tgls.....	Bottom.	22	NE.....	.8	
D. 4063	July 18	(9.51 a.m. 10.03 a.m.)	Kauhola Light, S. 75° 30', E. 6.8'	78	77	.....	50	vol. s. for. co. r.	Tnr. S. M.....					
				78	77	.....	50-63	vol. s. for. co. r.	5¼' Blk.....	Bottom.	8	N. 30° E. .	.2	Net badly torn.
D. 4064	July 18	(10.20 a.m. 10.30 a.m.)	Kauhola Light, S. 71°, E. 6.7'	78	77	69.0	63	vol. s. for. co. r.	Tnr. S. M.....						
				78	77	69.0	63-107	vol. s. for. co. r.	8 Hp. Tgls.....	Bottom.	20	N. 11° W. .	.7		
			Alenuihana Chan- nel, between Ha- waii and Maui islands.												
D. 4065	July 18	(12.55 p.m. 1.38 p.m.)	Kauhola Light, S/ 44° 30', E. 16.1'	79	76	40.2	491	for. s. r.....	Sig. S. M.....						
				79	76	40.2	491-500	for. s. r.....	5¼' Blk.....	Bottom.	3	NW.....	.1	Net badly torn.	
D. 4066	July 18	(4.16 p.m. 4.38 p.m.)	(Ka Lae-o Ka Iio) Point, Maui Island, N. 79° 30', W. 3.5'	80	76	52.5	176	rky.....	Sig. S. M.....						
				80	76	52.5	176-49	rky.....	8 Hp. Tgls.....	Bottom.	16	N. 37° E. .	1		
			Northeast and north coast of Maui Island.												
D. 4067	July 19	(9.18 a.m. 9.23 a.m.)	Puniawa Point, N. 77°, E. 9.2'	77	76	.....	10	fine. co. vol. s. .	Tnr. S. M.....					
				77	76	.....	10-14	fine. co. vol. s. .	8' Thr.....	Bottom.	24	N. 18° W. .	.8	Net improperly landed; dragged upside down.

D. 4068	July 19	9.51 a.m.	Puniawa Point,	77	76	76.9	14	fine gy. s.	Tnr. S. M.				
		9.56 a.m.	N. 82° E. 9.3'	77	76	76.9	14-18	fine gy. s.	8' Tnr.	Bottom.	20	N. 21° W. ..	1
D. 4069	July 19	10.19 a.m.	Puniawa Point,	80	77	.....	18	fine gy. s.	Tnr. S. M.				
		10.24 a.m.	East, 9.7'	80	77	.....	18-23	fine gy. s.	8' Tnr.	Bottom.	20	N. 17° W. ..	.8
D. 4070	July 19	11.23 a.m.	Puniawa Point,	79	76	70.8	45	fine gy. s.	Sig. S. M.				
		11.34 a.m.	S. 81° 30' E. 6.4'	79	76	70.8	45-52	fine gy. s.	8' Tnr.	Bottom.	20	N. 39° W. ..	.3
		12.00 m.		81	76	72.9	52	fine co. vol. s. for.	Tnr. S. M.				
D. 4071	July 19	12.10 p.m.	Puniawa Point, S. 78° 30' E. 6.8'	81	76	72.9	52-56	fine co. vol. s. for.	8' Tnr.	Bottom.	21	N. 18° W. ..	.4
D. 4072	July 19	12.37 p.m.	Puniawa Point,	81	76	73.4	56	crs. co. s. for ..	Tnr. S. M.				
		12.47 p.m.	S. 74° 30' E. 7.1'	81	76	73.4	56-59	crs. co. s. for ..	8' Tnr.	Bottom.	21	N. 48° W. ..	.5
D. 4073	July 19	1.15 p.m.	Puniawa Point,	80	76	71.9	69	crs. co. s. for ..	Tnr. S. M.				
		1.27 p.m.	S. 72° E. 7.8'	80	76	71.9	69-78	crs. co. s. for ..	8' Tnr.	Bottom.	22	N. 48° W. ..	.6
D. 4074	July 19	1.57 p.m.	Puniawa Point,	81	76	70.8	78	co. s. for ..	Tnr. S. M.				
		2.07 p.m.	S. 70° E. 8.5'	81	76	70.8	78-85	co. s. for ..	8' Tnr.	Bottom.	21	N. 51° W. ..	.6
D. 4075	July 21	8.09 a.m.	Puniawa Point,	77	76	72.4	49	fine gy. s. for ..	Sig. S. M.				
		8.18 a.m.	S. 79° 30' E. 6'	77	76	72.4	49-57	fine gy. s. for ..	8' Tnr.	Bottom.	21	N. 27° W. ..	.8
D. 4076	July 21	8.48 a.m.	Puniawa Point,	77	76	70.4	57	co. s. sh. for ..	Tnr. S. M.				
		9.01 a.m.	S. 72° 30' E. 6.7'	77	76	70.4	57-68	co. s. sh. for ..	8' Tnr.	Bottom.	15	N. 32° W. ..	.4
D. 4077	July 21	9.52 a.m.	Puniawa Point,	78	76	70.0	99	fine co. s. for ..	Sig. S. M.				
		10.04 a.m.	S. 45° 45' E. 6.1'	78	76	70.0	99-106	fine co. s. for ..	10' Blk.	Bottom.	20	N. 57° E. ....	.4
D. 4078	July 21	10.33 a.m.	Puniawa Point,	78	76	66.7	106	fine co. s. for ..	Sig. S. M.				
		10.52 a.m.	S. 40° E. 6.1'	78	76	66.7	106-143	fine co. s. for ..	10' Blk.	Bottom.	20	N. 61° E. ....	.5
D. 4079	July 21	11.21 a.m.	Puniawa Point,	78	76	60.8	143	gy. s. for ..	Sig. S. M.				
		11.42 a.m.	S. 31° 30' E. 6'	78	76	60.8	143-178	gy. s. for ..	10' Blk.	Bottom.	20	N. 24° E. ....	.5
D. 4080	July 21	12.20 p.m.	Puniawa Point,	79	76	56.4	178	gy. s. for ..	Sig. S. M.				
		12.48 p.m.	S. 23° E. 6.8'	79	76	56.4	178-202	gy. s. for ..	10' Blk.	Bottom.	20	N. 19° E. ....	.5
D. 4081	July 21	1.30 p.m.	Puniawa Point,	80	76	51.7	202	gy. s. for ..	Sig. S. M.				
		2.01 p.m.	S. 17° 45' E. 7.6'	80	76	51.7	202-220	gy. s. for ..	10' Blk.	Bottom.	21	N. 51° E. ....	.4
D. 4082	July 21	2.45 p.m.	Puniawa Point,	81	76	48.8	220	gy. s.	Sig. S. M.				
		3.14 p.m.	S. 11° 30' E. 8.1'	81	76	48.8	220-238	gy. s.	10' Blk.	Bottom.	21	N. E. ....	.4
D. 4083	July 21	3.52 p.m.	Puniawa Point,	84	76	.....	238	gy. s.	Sig. S. M.				
		4.27 p.m.	S. 4° 15' E. 8.8'	84	76	.....	238-253	gy. s.	10' Blk.	Bottom.	20	N. 2° E. ....	.5
D. 4084	July 21	5.08 p.m.	Puniawa Point,	80	76	46.7	253	fine gy. s.	Sig. S. M.				
		5.36 p.m.	S. 3° 15' E. 10.1'	80	76	46.7	253-267	fine gy. s.	10' Blk.	Bottom.	20	N. 10° E. ....	.3
D. 4085	July 21	6.18 p.m.	Puniawa Point,	81	76	(?)	267	s. sh.	Sig. S. M.				
		6.49 p.m.	S. 2° E. 10.9'	81	76	.....	267-283	s. sh.	10' Blk.	Bottom.	21	N. 23° E. ....	.3
		6.55 p.m.		81	76	.....	283	s. sh.	Surf. N.	Surface.	14	N. 23° E. ....	.2
D. 4086	July 21	7.34 p.m.	Puniawa Point,	78	76	44.6	283	s. sh.	Sig. S. M.				
		7.46 p.m.	South 11.8'	78	76	.....	283	s. sh.	Surf. N.	Surface.	36	N. W. ....	.8
		8.02 p.m.		78	76	44.6	283-308	s. sh.	10' Blk.	Bottom.	20	N. W. ....	.5

Net came up with bag inside bridles and over upper beam; was lowered too fast for the tail weight, which was 35 pounds.

Used 60-pound tail weight; O. K. at same speed lowering.

Botm. tempr. recorded 74.9°.

1 haul.

Do.

		North coast of Maui Island.											
D. 4098	July 23	{ 9.58 a.m.	{ Puniawa Point,	78	76	64.8	95	co. s. for. r...	Sig. S. M.....				
		{ 10.15 a.m.	{ S. 32° 30', E. 6.5'	78	76	64.8	95-152	co. s. for. r...	10' Blk.....	Bottom.	20	N. 21° W..	1
D. 4099	July 23	{ 10.49 a.m.	{ Puniawa Point,	78	76	60.7	152	fne. s. for. sh...	Sig. S. M.....				
		{ 11.14 a.m.	{ SE. 8.3'	78	76	60.7	152-153	fne. s. for. sh...	8' Tnr.....	Bottom.	20	S. 85° W..	9
<i>Pailolo Channel, between Maui and Molokai islands.</i>													
D. 4100	July 23	{ 1.53 p.m.	{ Mokuhooniki	80	76	61.0	130	co. s. sh. for...	Sig. S. M.....				
		{ 2.08 p.m.	{ Islet, N. 35° W,	80	76	61.0	130-151	co. s. sh. for...	8 Hp. Tpls....	Bottom.	24	N. 17° E..	7
			{ E. 4.8'										
D. 4101	July 23	{ 3.39 p.m.	{ Mokuhooniki	79	78	59.7	143	co. s. sh. for...	Sig. S. M.....				
		{ 4.06 p.m.	{ Islet, N. 8° 30'	79	78	59.7	143-122	co. s. sh. for...	10' Blk.....	Bottom.	21	S. 89° W..	7
			{ E. 4.8'										
D. 4102	July 23	{ 4.43 p.m.	{ Mokuhooniki	78	79	.....	122	fne. gy. s. for...	Sig. S. M.....				
		{ 5.09 p.m.	{ Islet, N. 29° E,	78	79	.....	122-132	fne. gy. s. for...	10' Blk.....	Bottom.	20	S. 51° W..	5
			{ E. 5.6'										
D. 4103	July 23	{ 5.44 p.m.	{ Mokuhooniki	77	78	61.7	132	fne. gy. s.	Sig. S. M.....				
		{ 6.06 p.m.	{ Islet, N. 32° 45'	77	78	61.7	132-141	fne. gy. s.	10' Blk.....	Bottom.	21	S. 63° W..	6
			{ E. 6.7'										
D. 4104	July 23	{ 6.44 p.m.	{ Mokuhooniki	77	78	60.8	141	fne. gy. s. for...	Sig. S. M.....				
		{ 7.07 p.m.	{ Islet, N. 33° 15'	77	78	60.8	141-123	fne. gy. s. for...	10' Blk.....	Bottom.	20	S. 80° W..	5
			{ E. 8.1'										
<i>Kaiwi Channel, between Molokai and Oahu islands.</i>													
D. 4105	July 24	{ 5.12 a.m.	{ Lae-o Ka Laau	76	76	43.8	314	fne. co. s. for...	Sig. S. M.....				
		{ 5.50 a.m.	{ Light, Molokai	76	76	43.8	314-335	fne. co. s. for...	8' Tnr.....	Bottom.	20	N. 7° E..	5
			{ Island, S. 45° 30',										
			{ E. 10.0'										
D. 4106	July 24	{ 6.35 a.m.	{ Lae-o Ka Laau	76	76	42.6	335	fne. s.	Sig. S. M.....				
		{ 7.07 a.m.	{ Light, Molokai	76	76	42.6	335-350	fne. s.	8' Tnr.....	Bottom.	20	N. 20° E..	4
			{ Island, S. 40° 15',										
			{ E. 11.5'										
D. 4107	July 24	{ 7.56 a.m.	{ Lae-o Ka Laau	78	76	41.6	350	co. s. for.....	Sig. S. M.....				
		{ 8.28 a.m.	{ Light, Molokai	78	76	41.6	350-355	co. s. for.....	10' Blk.....	Bottom.	6	N. 13° E..	1
			{ Island, S. 34° 30',										
			{ E. 12.3'										
D. 4108	July 24	{ 9.44 a.m.	{ Lae-o Ka Laau	79	76	40.4	411	co. s. for.....	Sig. S. M.....				
		{ 10.12 a.m.	{ Light, Molokai	79	76	40.4	411-442	co. s. for.....	8' Tnr.....	Bottom.	20	N. 51° W..	5
			{ Island, S. 21°										
			{ E. 15.5'										
D. 4109	July 24	{ 11.06 a.m.	{ Lae-o Ka Laau	79	76	40.4	442	co. s. for.....	Sig. S. M.....				
		{ 11.42 a.m.	{ Light, Molokai	79	76	40.4	442-449	co. s. for.....	8' Tnr.....	Bottom.	20	N. 28° W..	5
			{ Island, S. 23° 45'										
			{ E. 17.0'										

Record of the dredging and other collecting stations of the Albatross in 1902—Continued.

Station No.	Date.	Time of day.	Position.	Temperatures.				Kind of bot-tom.	Instrument used.	Trawl.		Drift.		Remarks.
				Air.	Sur-face.	Bot-tom.	Depth.			Depth.	Length.	Direction.	Dis-tance.	
				° F.	° F.	° F.	Fms.		Fms.	Hr. M.				
<i>Kaui Channel, be-tween Molokai and Oahu is-lands—C'd.</i>														
D. 410	July 24	{ 12.35 p.m. 1.27 p.m.	{ (Lae-o Ka Laau) Light, Molokai Island, S. 24° E. 18.7'.	82	76	40.3	449	gy. s.	Sig. S. M.					
				82	76	40.3	449-460	gy. s.	8' Tr	Bottom.	0 20	N. 57° E.	0.6	
D. 411	July 24	{ 2.27 p.m. 3.15 p.m.	{ (Lae-o Ka Laau) Light, Molokai Island, S. 15° 30' E. 19.4'.	81	77	40.0	460	fne. s. r.	Sig. S. M.					
				81	77	40.0	460-470	fne. s. r.	8' Tr	Bottom.	20	N. 38° E.	.2	Bridle stops parted; net cap-sized.
D. 412	July 24	{ 5.42 p.m. 6.26 p.m.	{ (Lae-o Ka Laau) Light, Molokai Island, S. 19° 30' E. 17.5'.	79	76	40.5	447	fne. s.	Sig. S. M.					
				79	76	40.5	447-433	fne. s.	8' Tr	Bottom.	20	S. 34° W.	.5	
D. 413	July 24	{ 7.31 p.m. 8.14 p.m.	{ (Lae-o Ka Laau) Light, Molokai Island, S. 26° E. 16.4'.	78	76	40.6	433	co. for. s.	Sig. S. M.					
				78	76	40.6	433-395	co. for. s.	8' Tr	Bottom.	21	N. 23° W.	.6	
<i>Northwest coast of Oahu Island.</i>														
D. 414	July 25	{ 9.37 a.m. 9.56 a.m.	{ Kahuku Point, N. 72° 30', E. 9.3'.	82	78	60.7	154	co. s. for.	Sig. S. M.					
				82	78	60.7	154-195	co. s. for.	8' Tr.	Bottom.	20	N. 3° W.	.8	
D. 415	July 25	{ 10.33 a.m. 10.59 a.m.	{ Kahuku Point, N. 83°, E. 9.0'.	80	77	55.1	195	co. s. for.	Sig. S. M.					
				80	77	55.1	195-241	co. s. for.	10' Blk	Bottom.	20	N. 5° W.	.7	
D. 416	July 25	{ 11.41 a.m. 12.15 p.m.	{ Kahuku Point, N. 86° 30', E. 9.1'.	81	77	48.8	241	co. s. for.	Sig. S. M.					
				81	77	48.8	241-282	co. s. for.	10' Blk	Bottom.	21	N. 16° E.	.8	
D. 417	July 25	{ 1.03 p.m. 1.35 p.m.	{ Kahuku Point, S. 69° 30', E. 9.0'.	81	77	45.6	282	co. s. for.	Sig. S. M.					
				81	77	45.6	282-253	co. s. for.	10' Blk	Bottom.	21	N. 55° E.	.8	
D. 418	July 25	{ 2.27 p.m. 2.58 p.m.	{ Kahuku Point, S. 53° 45', E. 7.9'.	83	77	45.8	253	co. s. for. r.	Sig. S. M.					
				83	77	45.8	253-322	co. s. for. r.	10' Blk	Bottom.	16	N. 54° E.	.3	Frame wrecked; upper beam badly bent and torn from bolt at one end; one runner badly bent; and net badly torn. Water haul.
D. 419	July 25	{ 6.31 p.m. 6.47 p.m.	{ Kahuku Point, N. 62° 30', E. 9.9'.	80	78	63.8	84	co. s. for.	Sig. S. M.					
				80	78	63.8	84-167	co. s. for.	8' Tr.	Bottom.	20	N. 25° W.	1	Water haul, probably on bot-tom but little.
D. 420	July 25	{ 7.19 p.m. 7.40 p.m.	{ Kahuku Point, N. 72° 30', E. 10.0'.	79	77	52.7	167	co. s. for.	Sig. S. M.					
				79	77	52.7	167-216	co. s. for.	8' Tr.	Bottom.	21	N. 21° W.	.8	

D. 4121	July 25	{ 8.23 p.m. 8.53 p.m. }	{ Kahuku Point, N. 79°, E. 10.1'. }	79	77	48.8	216	co. s. for.....	Sig. S. M.....	Bottom.	23	N. 40° W..	1.1	Heavy strains; cable jumped block on berth deck; runners and beam of frame badly twisted; net not torn.
				79	77	48.8	216-251	co. s. for.....	8' Tnr.....					
<i>Southwest coast of Oahu Island.</i>														
D. 4122	July 26	{ 6.32 a.m. 6.55 a.m. }	{ Barbers Pt. Light, N. 82°, E. 2.2'. }	78	79	64.6	192	crs. co. s. sh ..	Sig. S. M.....	Bottom.	25	N. 49° W..	.6	
				78	79	64.6	192-352	crs. co. s. sh ..	8' Blk.....					
D. 4123	July 26	{ 7.44 a.m. 8.12 a.m. }	{ Barbers Pt. Light, S. 78°, E. 3.2'. }	81	79	42.3	352	fne. gy. s. m ..	Sig. S. M.....	Bottom.	15	N. 22° E..	.3	Heavy load of mud in net; upper beam of frame slightly bent from weight of load.
				81	79	42.3	352-357	fne. gy. s. m ..	8' Blk.....					
D. 4124	July 26	{ 9.22 a.m. 9.53 a.m. }	{ Barbers Pt. Light, S. 70°, E. 3.2'. }	81	79	42.3	337	fne. gy. s. r....	Sig. S. M.....	Bottom.	15	S. 19° E..	.4	Heavy strains; cable jumped block on berth deck; frame bent; bridle stops parted; net capsized and badly torn.
				81	79	42.3	357-350	fne. gy. s. r....	8' Blk.....					
<i>Kaieie-Waho Channel, bet. Oahu and Kauai islands.</i>														
D. 4125	July 31	{ 7.18 a.m. 8.45 a.m. }	{ Kahuku Pt., Oahu } { I., S. 77°, E. 12.0'. }	78	77	36.4	963	br. m. for. r ...	Sig. S. M.....	Bottom.	16	N. 79° W..	.4	Lost everything except fragments of net, bridle, etc.
				78	77	36.4	963-1,124	br. m. for. r ...	5 1/2' Blk.....					
D. 4126	July 31	{ 12.16 p.m. 1.50 p.m. }	{ Kahuku Pt., Oahu } { I., S. 72°, E. 25.0'. }	80	78	35.5	1,278	gy. s. for	Sig. S. M.....	Bottom.	15	N. 82° W..	.6	
				80	78	35.5	1,278-743	gy. s. for	5 1/2' Alb.-Blk...					
<i>Vicinity of Kauai Island.</i>														
D. 4127	July 31	{ 10.19 p.m. 12.16 a.m. }	{ Hanamaulu ware- house, S. 45° 30', W. 12.8'. }	78	78	35.3	1,362	brk. sh. vol. s.	Sig. S. M.....	Bottom.	23	S. 74° W..	.4	Dragged over rough, steep, ascending slope with 900 fms. cable out; very heavy strains; lost complete outfit and 138 fms. cable, 250-pound sinker, etc.
				78	78	35.3	1,362-358	brk. sh. vol. s.	5 1/2' Alb.-Blk...					
D. 4128	Aug. 1	{ 5.31 a.m. 6.22 a.m. }	{ Hanamaulu ware- house, N. 44° 30', W. 2.6'. }	78	77	47.8	233	crs. br. co. s.	Sig. S. M.....	Bottom.	20	N. 25° E..	.4	Depth 253 fms. at initial sounding; trawl took bottom in 68 fms.; was towed for time at 90 fms.; final sounding 179 fms. Position on line, between 68 and 90 fms., Hanamaulu ware-house bore N. 31° 30', W. 2.5'.
				78	77	47.8	253-68-99-179	crs. br. co. s.	8' Alb.-Blk....					
D. 4129	Aug. 1	{ 6.51 a.m. 7.13 a.m. }	{ Hanamaulu ware- house, N. 42° 30', W. 2.3'. }	78	77	58.9	179	crs. co. s. for. sh.	Sig. S. M.....	Bottom.	20	N. 35° E..	.4	Water haul.
				78	77	58.9	179-283	crs. co. s. for. sh.	8' Alb.-Blk....					
D. 4130	Aug. 1	{ 7.48 a.m. 8.22 a.m. }	{ Hanamaulu ware- house, N. 61°, W. 2.2'. }	78	77	46.1	283	fne. gy. s.....	Sig. S. M.....	Bottom.	20	N. 10° E..	.4	
				78	77	46.1	283-309	fne. gy. s.....	8' Alb.-Blk....					

Record of the dredging and other collecting stations of the Albatross in 1902—Continued.

Station No.	Date.	Time of day.	Position.	Temperatures.			Depth.	Kind of bot- tom.	Instrument used.	Trial.		Drift.		Remarks.
				Air.	Sur- face.	Bot- tom.				Depth.	Length.	Direction.	Dis- tance.	
			Vicinity of Kauai Island—C'd.	° F.	° F.	° F.	Fms.			Fms.	Hr. M.			
D. 4131	Aug. 1	9.12 a. m. 9.38 a. m.	{ Hanamaulu ware- house, S. 81° 30', W. 2.2'.	79 79	77 77	43.7 43.7	309 309-257	fne. gy. s. fne. gy. s.	Sig. S. M. 8' Alb.-Blk.	Bottom.	0 28	N. 18° W. .	0.8	
D. 4132	Aug. 1	{ 10.30 a. m. 11.05 a. m.	{ Hanamaulu ware- house, S. 37° 30', W. 27'.	80 80	77 77	46.8 46.8	257 257-312	fne. gy. s. m. fne. gy. s. m.	Sig. S. M. 8' Alb.-Blk.	Bottom.	28	N. E. ....	.6	Heavy load mud; nets slightly torn from weight.
D. 4133	Aug. 1	{ 12.22 p. m. 1.01 p. m.	{ Hanamaulu ware- house, S. 40° W. 4.4'.	81 81	77 77	43.8 43.8	312 165-41	fne. gy. s. r. fne. gy. s. r.	Sig. S. M. 8' Alb.-Blk.	Bottom.	24	S. 81° W. .	.7	Trawl took bottom in 165 fms.; towed up steep slope to 41 fms.; bridle stops parted; net capsized and torn; no gear lost.
D. 4134	Aug. 1	{ 2.14 p. m. 2.42 p. m.	{ Hanamaulu ware- house, S. 35° 30', W. 5.2'.	82 82	78 78	43.3 43.3	324 324-225	fne. co. vol. s. fne. co. vol. s.	Sig. S. M. 8' Alb.-Blk.	Bottom.	29	N. 12° E. .	.5	
D. 4135	Aug. 1	{ 3.36 p. m. 3.57 p. m.	{ Hanamaulu ware- house, S. 31° 30', W. 6.2'.	83 83	78 78	51.4 51.4	225 225-294	fne. co. s. fne. co. s.	Sig. S. M. 8' Alb.-Blk.	Bottom.	20	N. 38° E. .	.4	Almost a water haul; net evidently only on bottom a moment.
D. 4136	Aug. 1	{ 4.32 p. m. 4.59 p. m.	{ Hanamaulu ware- house, S. 31° 45', W. 6.9'.	83 83	78 78	44.2 44.2	294 294-352	fne. co. s. fne. co. s.	Sig. S. M. 8' Alb.-Blk.	Bottom.	7	N. 31° E. .	.1	Heavy strains, but no damage done to gear.
D. 4137	Aug. 1	{ 7.26 p. m. 7.45 p. m. 8.24 p. m.	{ Hanamaulu ware- house, N. 65° 13', W. 4'.	79 79 79	78 78 78	41.0 41.0 41.0	411 411-476	co. vol. s. for. r. co. vol. s. for. r.	Sig. S. M. Surf. N. 8' Alb.-Blk.	Surface. Bottom.	21 21	N. 5° W. . N. 5° W. .	.3 .3	Lining and inner net torn by short, quick surges. Bridle stops parted on one runner; net and apron slightly torn.
D. 4138	Aug. 1	{ 9.26 p. m. 10.15 p. m.	{ Hanamaulu ware- house, S. 88° W. 2.7'.	79 79	77 77	40.0 40.0	476 476-438	fne. br. s. r. fne. br. s. r.	Sig. S. M. 8' Alb.-Blk.	Bottom.	24	N. 15° E. .	.4	Heavy strains; upper beam bent and frame bent and twisted; net complete wreck, but no gear lost.
D. 4139	Aug. 2	{ 12.39 a. m. 1.25 a. m.	{ Hanamaulu ware- house, S. 57° W. 5.2'.	78 78	77 77	40.3 40.3	512 512-339	fne. gy. s. r. fne. gy. s. r.	Sig. S. M. 8' Alb.-Blk.	Bottom.	15	N. 54° W. .	.3	Bridle stops parted; net doubled over upper beam, but not torn.
D. 4140	Aug. 2	{ 2.25 a. m. 3.09 a. m.	{ Hanamaulu ware- house, S. 39° W. 4.9'.	78 78	77 77	43.4 43.4	339 339-437	fne. gy. s. fne. gy. s.	Sig. S. M. 8' Alb.-Blk.	Bottom.	21	N. 72° E. .	.5	

D. 4141	Aug. 2	3.57 a. m. 4.36 a. m.	Hanamaulu ware-house, S. 46°, W. 6.2'	78 78	77 77	41.0 41.0	437 437-432	vol. s. for	Sig. S. M. 8' Alb. Blk.	Bottom.	20	N. 28° E.	.3	
D. 4142	Aug. 2	5.40 a. m. 6.42 a. m.	Hanamaulu ware-house, S. 43° 15', W. 7.3'	78 78	77 77	38.6 38.6	632 632-681	crs. mang. s. r. crs. mang. s. r.	Sig. S. M. 8' Alb. Blk.	Bottom.	8	N. 14° E.	.1	Bridle stops parted one side; nothing lost.
D. 4143	Aug. 2	10.03 a. m. 11.00 a. m.	Hanamaulu ware-house, N. 64° 45', W. 4.8'	79 79	78 78	38.0 38.0	710 710-516	fne. gy. s. r. fne. gy. s. r.	Sig. S. M. 8' Alb. Blk.	Bottom.	20	N. 5° W.	.6	Bridle parted at shackle, losing complete Blake-Albatross outfit.
D. 4144	Aug. 2	1.14 p. m. 2.23 p. m.	Hanamaulu ware-house, S. 55° 45', W. 7.3'	81 81	78 78	37.4 37.4	850 850-767	fne. gy. s. fne. gy. s.	Sig. S. M. 8' Blk.	Bottom.	20	N. 43° W.	.2	
D. 4145	Aug. 4	7.05 p. m.	Between Kawai Id. and Modu Manu, or Bird Island. Lat. N. | Long. W. o | o 27 27 | 30 160 40 00	78	77	.....	(Did not sound.)	2 Surf. N.; 1 on each side.	Surface.	1 30	N. 61° W.	.3	12 hauls (6 each side simultaneously).	
D. 4146	Aug. 5	8.46 a. m. 8.52 a. m.	Center of Bird Id., S. 62°, W. 0.5'	79 79	77 77	78.7 78.7	23 23-26	crs. co. s. for	Tnr. S. M. 9 Hp. Tgls	Bottom.	22	N. 1° E.	1.2	
D. 4147	Aug. 5	9.18 a. m. 9.24 a. m.	Center of Bird Id., S. 21°, W. 2.0'	81	77	77.9	26	co. corln.	Tnr. S. M. 8 Hp. Tgls	Bottom.	21	N. 8° W.	.1	
D. 4148	Aug. 5	9.49 a. m. 9.54 a. m.	Center of Bird Id., S. 10°, W. 3.2'	81 81	77 77	77.9 77.9	26 26-33	co. s. for	Tnr. S. M. 9 Hp. Tgls	Bottom.	21	North	.1	
D. 4149	Aug. 5	10.19 a. m. 10.26 a. m.	Center of Bird Id., S. 7° 30', W. 4.3'	81 81	77 77	77.7 77.7	33 33-71	co. corln.	Tnr. S. M. 8 Hp. Tgls	Bottom.	31	North	.1	
D. 4150	Aug. 5	11.02 a. m. 11.13 a. m.	Center of Bird Id., S. 6°, W. 5.5'	82 82	78 78	74.0 74.0	71 71-160	co co	Tnr. S. M. 9 Hp. Tgls	Bottom.	20	N. 2° W.	.7	Depth increased rapidly; estd. dredging depth betw. 71 and 160 fms.
D. 4151	Aug. 5	5.07 p. m. 5.57 p. m.	Center of Bird Island, S. 32°, W. 12.8'	85 85	79 79	37.8 37.8	871 800-313	fne. co. s. for st. fne. co. s. for st.	Sig. S. M. 5' Blk.	Bottom.	23	S. 76° W.	.6	Estimated that trawl took bottom at about 300 fms. depth, and was dragged up steep slope.
D. 4152	Aug. 5	7.07 p. m. 7.23 p. m. 7.40 p. m.	Center of Bird Island, S. 23° 30', W. 11.6'	82 82 82	79 79 79	44.6 44.6	313 313-500	rky rky	Sig. S. M. Surf. N. 8' Blk.	Surface. Bottom.	15 20	N. 88° W. N. 88° W.	.6 .8	1 haul. Depth increased; estimated that trawl left bottom at about 500 fms. Lost frame and 35-pound tail weight; net wrecked.
D. 4153	Aug. 5	9.29 p. m. 10.45 p. m. 10.50 p. m.	Center of Bird Island, S. 12°, W. 9.7'	81 81 81	79 79 79	37.0 37.0	962 962- 1,059	co. s co. s	Sig. S. M. 8' Blk.	Bottom.	11	N. 81° W.	.4	
									Surf. N.	Surface.	7	N. 81° W.	.3	1 haul.

Record of the dredging and other collecting stations of the Albatross in 1902—Continued.

Station No.	Date.	Time of day.	Position.	Temperatures.			Depth.	Kind of bot- tom.	Instrument used.	Trawl.		Drift.		Remarks.
				Air	Sur- face.	Bot- tom.				Depth.	Length.	Direction.	Dis- tance.	
				° F.	° F.	° F.	Fms.			Fms.	Hr. M.			
D. 4154	1902. Aug. 6	{ 8.02 a. m. 8.52 a. m.	Vicinity of <i>Modu Manu, or Bird Islands</i> —C't'd. (Center of Bird Is- land, S. 6° 30', W. 6.9'.	79 79	77 77	38.8 38.8	636 636-850	fne. wh. s..... fne. wh. s.....	Sig. S. M..... 8' Blk.....	Bottom.	0 25	N. 60° W..	0.6	Depth increased; estimated that trawl left bottom at about 850 fms.
D. 4155	Aug. 6	{ 1.33 p. m. 3.04 p. m.	(Center of Bird Is- land, S. 31° 30', W. 13.0'.	82 82	78 78	36.0 36.0	1,164 1,164- 1,584	glob. oz..... glob. oz.....	Sig. S. M..... 5½' Blk.....	Bottom.	30	N. 71° W..	.7	
D. 4156	Aug. 6	{ 9.33 p. m. 10.04 p. m.	(Center of Bird Is- land, S. 79° E, 9.2'.	79 79	78 78	45.8 45.8	286 286-550	wh. m. for. r.. wh. m. for. r..	Sig. S. M..... 5½' Blk.....	Bottom.	16	N. 59° W..	.2	Lost frame and 35-pound tail weight; upper part of net wrecked; apron torn.
D. 4157	{ Aug. 6 Aug. 7	{ 11.27 p. m. 12.17 a. m.	(Center of Bird Is- land, S. 79° 30', E. 11.1'.	79 79	77 77	38.0 38.0	762 762- 1,000	wh. m. for. r.. wh. m. for. r..	Sig. S. M..... 8' Blk.....	Bottom.	22	N. 63° W..	.4	Depth increased; estimated that trawl left bottom at about 1,000 fms. Net slightly torn.
D. 4158	Aug. 7	{ 6.57 a. m. 7.06 a. m. 7.32 a. m.	(Center of Bird Is- land, N. 1.0'.	79 79 79	78 78 78	78.6 78.6 78.3	20 20-30 30	co. corin..... co. corin..... crs. co. s. brk.	Sig. S. M..... 9 Hp. Tgls..... Tnr. S. M.....	Bottom.		N. 64° W..	1	
D. 4159	Aug. 7	{ 7.37 a. m.	(Center of Bird Is- land, N. 81° E, 2.0'.	79	78	78.3	30-31	sh. for. crs. co. s. brk. sh. for.	8 Hp. Tgls....	Bottom.	24	N. 66° W..	1.5	
D. 4160	Aug. 7	{ 8.07 a. m. 8.12 a. m.	(Center of Bird Is- land, S. 83° E, 3.8'.	82 82	78 78	78.0 78.0	31 31-39	co. corin..... co. corin.....	Tnr. S. M..... 9 Hp. Tgls....	Bottom.	25	N. 51° W..	.9	
D. 4161	Aug. 7	{ 8.42 a. m. 9.08 a. m.	(Center of Bird Is- land, S. 75° E, 5.0'.	82 82	78 78	77.9 77.9	39 39-183	co. corin..... co. corin.....	Tnr. S. M..... 8 Hp. Tgls....	Bottom.	5	N. 75° W..	.2	
D. 4162	Aug. 8	{ 5.57 a. m. 6.01 a. m.	(Center of Bird Is- land, N. 75° E, 21.3'.	78 78	77 77	..... .....	21 21-24	co..... co.....	Hand lead..... 8 Hp. Tgls....	Bottom.	20	N. 27° E..	1.6	Same position as night an- chorage, Aug. 7-8.
D. 4163	Aug. 8	{ 6.25 a. m. 6.33 a. m.	(Center of Bird Is- land, N. 79° 30', E. 20.0'.	78 78	77 77	78.1 78.1	24 24-40	co..... co.....	Tnr. S. M..... 9 Hp. Tgls....	Bottom.	10	N. 33° E..	.8	
D. 4164	Aug. 8	{ 6.56 a. m. 7.03 a. m.	(Center of Bird Is- land, N. 84° E, 18.5'.	78 78	77 77	78.1 78.1	40 40-56	co. s. p. sh..... co. s. p. sh.....	Tnr. S. M..... 8 Hp. Tgls....	Bottom.	20	N. 38° E..	1.1	

D. 4165	Aug. 8	7.50 a. m. 8.16 a. m.	(Center of Bird Island, E. 17.0'.	80 80	78 56.3 78 56.3	167 167-233	fine. co. s. sh. r. fine. co. s. sh. r.	Sig. S. M. 8' Blk.	Bottom.	23	N. 34° E...	.5	Upper beam bent badly; net wrecked.
D. 4166	Aug. 8	9.04 a. m. 9.46 a. m.	(Center of Bird Island, S. 86°, E. 16.2'.	80 80	78 45.6 78 45.6	293 293-300	co. s. for r. co. s. for r.	Sig. S. M. 8' Blk.	Bottom.	14	N. 40° E...	.4	Depth increased; estimated that trawl left bottom at about 800 fms. Upper beam bent more.
D. 4167	Aug. 8	12.22 p. m. 12.33 p. m.	(Center of Bird Island, N. 78° 30', E. 11.6'.	80 80	78 78 18-20	18	co. s. co. s.	Sig. S. M. 8 Hp. Tgls.	Bottom.	20	W	1.1	
D. 4168	Aug. 8	12.52 p. m. 1.04 p. m.	(Center of Bird Id. N. 80°, E. 13.0'.	81 81	78 78.3 78 78.3	20 20-21	co. s. for co. s. for	Tnr. S. M. 9 Hp. Tgls.	Bottom.	20	W	1.1	
D. 4169	Aug. 8	1.27 p. m. 1.31 p. m.	(Center of Bird Id. N. 81°, E. 14.3'.	81 81	78 78.6 78 78.6	21 21-22	co. co.	Tnr. S. M. 8 Hp. Tgls.	Bottom.	20	S. 71° W...	1.2	
D. 4170	Aug. 8	2.39 p. m. 2.50 p. m.	(Center of Bird Id. N. 72°, E. 16.3'.	80 80	78 77.4 78 77.4	26 26-27	co. s. for co. s. for	Sig. S. M. 9 Hp. Tgls.	Bottom.	20	N. 66° W ..	1.2	
D. 4171	Aug. 8	3.15 p. m. 3.27 p. m.	(Center of Bird Island, N. 75° 15', E. 17.2'.	79 79	78 78.0 78 78.0	27 27-31	co. co.	Tnr. S. M. 8 Hp. Tgls.	Bottom.	21	N. 56° W ..	.9	
D. 4172	Aug. 8	4.45 p. m. 5.36 p. m.	(Center of Bird Id. N. 68°, E. 21.0'.	80 80	78 38.0 78 38.0	751 751-346	ers. co. s. for r. ers. co. s. for r.	Sig. S. M. 8' Blk.	Bottom.	10	N. 63° W ..	.2	Lost frame and 35-pound tail weight. Net wrecked.
D. 4173	Aug. 9	2.09 a. m. 2.53 a. m.	(Center of Bird Island, N. 84° 30', W. 12.4'.	78 78	77 38.0 77 38.0	722 722-100	co. s. r. co. s. r.	Sig. S. M. 8' Tnr.	Bottom.	27	N. 15° E...	.4	Lost frame and float. Net complete wreck. Estimated trawl left bottom at about 100 fms.
			Vicinity of Nihoa Island.										
D. 4174	Aug. 11	9.34 a. m. 10.37 a. m.	(Kona Point, S. 180° 45', E. 6.7'.	81 81	78 38.0 78 38.0	735 735-865	gy. s. m. glob. r. gy. s. m. glob. r.	Sig. S. M. 9' Tnr.	Bottom.	3	N .....	.1	Bridle stops parted one side. Net slightly torn; frame bent one end.
D. 4175	Aug. 11	3.15 p. m. 3.57 p. m.	(Kona Point, S. 43° 15', W. 12.5'.	81 81	77 41.5 77 41.5	216 216-52	fine. gy. s. r. fine. gy. s. r.	Sig. S. M. 8 Hp. Tgls.	Bottom.	10	N. 41° E...	.3	Cable caught in stbd. propeller while reeling in. Lost 750 fms. cable, 120-pound dredging sinker, and complete tangle gear.
D. 4176	Aug. 12	8.06 a. m. 9.04 a. m.	(Kawahioa Point, N. 73° 30', W. 8.6'.	79 79	78 38.3 78 38.3	672 672-537	gy. s. m. for ... gy. s. m. for ...	Sig. S. M. 9' Tnr.	Bottom.	4	N. 33° E...	.2	
D. 4177	Aug. 12	11.44 a. m. 12.16 p. m.	(Kawahioa Point, S. 54° W. 17.5'.	81 81	78 41.0 78 41.0	451 451-319	gy. s. glob. gy. s. glob.	Sig. S. M. 9' Tnr.	Bottom.	20	S. 33° E...	.7	
D. 4178	Aug. 12	1.05 p. m. 1.37 p. m.	(Kawahioa Point, S. 61° 30', W. 17.6'.	84 84	78 78	319 319-378	co. s. r. p. co. s. r. p.	Sig. S. M. 9' Tnr.	Bottom.	11	N. 52° E...	.4	Net slightly torn.
D. 4179	Aug. 12	2.09 p. m. 2.36 p. m.	(Kawahioa Point, S. 60° 45', W. 19.2'.	84 84	79 42.0 79 42.0	378 378-426	co. s. r. p. co. s. r. p.	Sig. S. M. 5 1/2' Blk.	Bottom.	14	N. 11° W ..	.3	Do.
D. 4180	Aug. 12	3.13 p. m. 3.40 p. m.	(Kawahioa Point, S. 36°, W. 19.5'.	86 86	79 41.1 79 41.1	426 426-417	p. glob. r. p. glob. r.	Sig. S. M. 5 1/2' Blk.	Bottom.	18	N. 50° E...	.1	Do.

Record of the dredging and other collecting stations of the Albatross in 1902—Continued.

Station No.	Date.	Time of day.	Position.	Temperatures.				Kind of bot-tom.	Instrument used.	Trawl.		Drift.		Remarks.
				Air	Sur-face.	Bot-tom.	Depth.			Depth.	Length.	Direction.	Dis-tance.	
			Vicinity of Kauai Island.	° F.	° F.	° F.	Fms.			Fms.	Hr. M.			
D. 4181	Aug. 13	5.25 a. m. 6.19 a. m.	Hanamaulu ware-house, N. 56° W, W. 6.6'.	78	76	38.1	811	mang. s. glob.	Sig. S. M					
				78	76	38.1	811-671	mang. s. glob.	5' Blk	Bottom.	0 26	N. 2° W...	0.6	
D. 4182	Aug. 13	7.37 a. m. 8.35 a. m.	Hanamaulu ware-house, N. 74° 30' W. 5.6'.	78	77	38.4	671	mang. s. glob.	Sig. S. M					
				78	77	38.4	671-957		10' Blk	Bottom.	20	N. 19° E...	.6	
D. 4183	Aug. 13	9.54 a. m. 11.04 a. m.	Hanamaulu ware-house, S. 87° 15' W. 6.1'.	76	76	36.8	957	fine gy. s. glob.	Sig. S. M					
				76	76	36.8	957-1,067	fine gy. s. glob.	9' Trn	Bottom.	20	N. 25° E...	.4	
D. 4184	Aug. 13	12.31 p. m. 1.37 p. m.	Hanamaulu ware-house, S. 71° 45' W. 7.2'.	81	77	36.3	1,067	gy. s. glob.	Sig. S. M					
				81	77	36.3	1,067-1,000	gy. s. glob.	9' Trn	Bottom.	25	N. 7° W...	.6	
D. 4185	Aug. 13	3.10 p. m. 4.38 p. m.	Hanamaulu ware-house, S. 49° 30' W. 8.4'.	81	77	36.6	1,000	gy. s. m. for ...	Sig. S. M					
				81	77	36.6	1,000-1,314	gy. s. m. for ...	9' Trn	Bottom.	22	N. 17° E...	.6	
D. 4186	Aug. 13	7.40 p. m. 8.38 p. m.	Hanamaulu ware-house, S. 49° 15' W. 7.1'.	76	77	38.1	682	gy. s. for ...	Sig. S. M					
				76	77	38.1	682-508	gy. s. for ...	9' Trn	Bottom.	20	N. 6° W...	.4	
D. 4187	Aug. 13	9.49 p. m. 10.31 p. m.	Hanamaulu ware-house, S. 38° 45' W. 8.1'.	76	77	40.0	508	gy. s. for ...	Sig. S. M					
				76	77	40.0	508-703	gy. s. for ...	9' Trn	Bottom.	21	N. 13° E...	.4	
			Between Honolulu, Oahu Island, and San Francisco, Cal.											
			Lat. N. | Long. W.											
			o | o | o | o | o | o | o | o											
D. 4188	Aug. 23	6.54 p. m.	28 13 42 | 145 44 00	74	72		(Did not sound.)	2 Surf. N.: 1 each side.	Surface.	50	N. 36° E...	1.9	10 single hauls (5 each side, simultaneously).
D. 4189	Aug. 25	6.32 p. m.	31 34 12 | 139 08 00	74	69		(Did not sound.)	2 Surf. N.: 1 each side.	Surface.	50	N. 36° E...	2	8 single hauls (3 each side, simultaneously); 2 single hauls; all 10-minute intervals. Both nets torn badly.
D. 4190	Aug. 27	6.33 p. m.	34 39 18 | 132 04 00	69	69		(Did not sound.)	2 Surf. N.: 1 each side.	Surface.	1 0	N. 65° E...	2	12 single hauls (6 each side, simultaneously).