

RECORDS OF THE DREDGING AND OTHER COLLECTING AND  
HYDROGRAPHIC STATIONS OF THE FISHERIES  
STEAMER ALBATROSS IN 1903.

LIEUT. FRANKLIN SWIFT, U. S. N., *Commanding.*

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The dredging, trawling, and other collecting operations of the *Albatross* in 1903 were covered by a cruise in connection with the investigations of a special commission appointed at the request of the President to study the condition and needs of the Alaska salmon fisheries.

Previous to this cruise the last dredging station of the *Albatross* was No. 4190, on August 27, 1902, the last of the series in connection with the Hawaiian Islands investigations, the records of which may be found in the Report of the U. S. Fish Commission for 1902, pp. 397-432.

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

The tables include all hydrographic as well as dredging stations; with two exceptions (Nos. H. 4730 and H. 4777), all the hydrographic stations have an actual relation to the dredging stations in that they show the depth of water at the end of each dredge-haul, and consequently the range in depth within the limits of the haul, as well as the changes in temperature and character of bottom. As they constitute a logical part of the record, they are embodied in the tables in their chronologic order.

Of the 112 dredging stations shown in the following tables, 111 were actual net-dragging stations. At 95 the 8-foot Tanner beam trawl was employed, and at 16 the 9-foot Tanner trawl was used. The average maximum depth was 108 fathoms; average minimum depth, 92 fathoms; average mean depth, 100 fathoms.

Average time actually dragging on bottom, 20 minutes; average distance dragged over the bottom, .48 of a nautical mile.

One station was occupied solely for hand-line fishing; at other dredging stations lines were employed incidentally.

At 7 stations where the beam-trawl was used, the surface tow-net was also employed. At each station but a single haul was made, the average time of towing being 26 minutes, and the average distance towed through the water being one-half nautical mile.

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Record of dredging and other collecting and hydrographic

Date.	Station numbers.	Time of day.	Positions by true bearings.	Depth.	Character of bottom.	Chart used.
<i>Gulf of Georgia, off Nanaimo, Vancouver Island, B. C.</i>						
1903.				Fms.		
June 19	D. 4191	{ 1.40 p. m. 1.59 p. m.	{ Sharp Point, Nanaimo Hbr., S. 1° E., 1.2 miles.	{ 54 54-89	{ fne. dk. s. m. rky. fne. dk. s. m. rky.	{ H. O. No. 1278.
19	D. 4192	{ 2.39 p. m. 3.24 p. m. 3.25 p. m.	{ Sharp Point, Nanaimo Hbr., S. 1° W., 1.6 miles.	{ 89 89-97	{ gn. m. fne. s..... gn. m. fne. s.....	{ ..do ..do ..do
19	H. 4721	4.03 p. m.	Sharp Point, Nanaimo Hbr., S. 2° E., 2.1 miles.	97	gn. m. fne. s.....	..do
<i>Gulf of Georgia, Halibut Bank.</i>						
20	D. 4193	{ 9.48 a. m. 9.59 a. m.	{ Cape Roger Curtis, Bowen Id., S. 89° E., 10.8 miles.	{ 23 23-18	{ gn. m. fne. s..... gn. m. fne. s.....	{ H. O. No. 1455.
20	H. 4722	10.23 a. m.	Cape Roger Curtis, Bowen Id., S. 86° E., 10.6 miles.	18	gy. s.....	..do
20	D. 4194	{ 10.49 a. m. 11.09 a. m. 11.28 a. m.	{ Cape Roger Curtis, Bowen Id., N. 83° E., 10.8 miles.	{ 111 111-170	{ sft. gn. m..... sft. gn. m.....	{ ..do ..do
20	H. 4723	11.50 a. m.	Cape Roger Curtis, Bowen Id., N. 82° E., 12 miles.	170	gn. m. fne. s.....	..do
20	D. 4195	{ 12.15 p. m. 12.25 p. m.	{ Cape Roger Curtis, Bowen Id., N. 89° E., 11 miles.	{ 14 14-14	{ gy. m. fne. s..... gy. m. fne. s.....	{ ..do ..do
20	D. 4196	{ 1.06 p. m. 1.16 p. m.	{ Cape Roger Curtis, Bowen Id., N. 89° E., 11 miles.	{ 28 28-44	{ fne. gy. s..... fne. gy. s.....	{ ..do ..do
20	H. 4724	1.30 p. m.	Cape Roger Curtis, Bowen Id., N. 87° E., 11.3 miles.	44	fne. gy. s.....	..do
20	D. 4197	{ 1.44 p. m. 1.64 p. m. 2.04 p. m.	{ Cape Roger Curtis, Bowen Id., S. 87° E., 11 miles.	{ 90 90-47-31	{ stk. gn. m. fne. s..... stk. gn. m. fne. s.....	{ ..do ..do
20	H. 4725	2.42 p. m.	Cape Roger Curtis, Bowen Id., S. 89° E., 11.5 miles.	31	gy. s. bk. sp.....	..do
20	D. 4198	3.23 p. m.	Entrance Island light, S. 15° W., 6 miles.	157	sft. gn. m.....	C. S. No. 6300.
20	H. 4726	{ 3.38 p. m. 4.05 p. m.	{ Entrance Island light, S. 8° W., 5 miles.	{ 157-230 230	{ sft. gn. m..... sft. gn. m.....	{ ..do ..do
<i>Queen Charlotte Sound, off Fort Rupert, Vancouver Island, B. C.</i>						
25	D. 4199	{ 8.51 a. m. 9.05 a. m.	{ Center of Round Id., S. 46° W., 6.2 miles.	{ 107 107-68	{ sft. gn. m. vol. s..... sft. gn. m. vol. s.....	{ H. O. No. 1463.
25	H. 4727	9.30 a. m.	Center of Round Id., S. 50° W., 6.5 miles.	68	gn. m. s. sponge.....	..do
25	D. 4200	10.34 a. m.	Center of Round Id., S. 50° W., 4.3 miles.	111	sft. gn. m. s.....	..do
25	H. 4728	{ 10.44 a. m. 11.15 a. m.	{ Center of Round Id., S. 57° W., 5.2 miles.	{ 111-108 108	{ sft. gn. m. s..... sft. gn. m. s.....	{ ..do ..do
25	D. 4201	11.34 a. m.	Center of Round Id., S. 62° W., 3.9 miles.	138	sft. gn. m. s. brk. sh.....	..do
25	H. 4729	{ 11.47 a. m. 12.06 p. m.	{ Center of Round Id., S. 59° W., 4.9 miles.	{ 138-145 145	{ sft. gn. m. s. brk. sh..... lt. gn. m. fne. s.....	{ ..do ..do
25	D. 4202	2.10 p. m.	Center of Round Id., NW., 1.7 miles.	36	gy. s.....	H. O. No. 1481.
25	H. 4731	{ 2.15 p. m. 2.40 p. m.	{ Center of Round Id., N. 22° W., 1.5 miles.	{ 36-25 25	{ gy. s..... gn. m. s. brk. sh.....	{ ..do ..do
25	D. 4203	{ 2.53 p. m. 3.01 p. m.	{ Center of Round Id., N. 22° W., 1.5 miles.	{ 25 25-30	{ vol. s. g. brk. sh. sponge..... vol. s. g. brk. sh. sponge.....	{ ..do ..do

stations of United States Fisheries Steamer Albatross, in 1908.

Temperatures.			Apparatus used.	Trial.		Drift.		Remarks.
Alr.	Sur- face.	Bot- tom.		Depth.	Dura- tion.	Direction.	Dis- tance.	
					<i>Mins.</i>		<i>Miles.</i>	
{ 76	65	.....	Tnr. sdg. mch. ....					
76	65	.....	8' Tanner. ....	Bottom.	36	N. 7° E. ....	0.4	
{ 68	65	47.1	Tnr. sdg. mch. ....					
68	66	47.1	8' Tanner. ....	Bottom.	33	N. 11° W. ....	.4	
68	65	.....	Surface tow. ....	Surface.	35	N. 11° W. ....	.4	Hauled once.
68	65	47.5	Tnr. sdg. mch. ....					
{ 68	68	50.3	Tnr. sdg. mch. ....					
68	68	50.3	8' Tanner. ....	Bottom.	21	S. 1° E. ....	.7	6 hand lines over while dredging; caught nothing. Large haul. Net slightly torn.
68	63	51.0	Tnr. sdg. mch. ....					
{ 68	63	48.3	Tnr. sdg. mch. ....					
63	63	48.3	8' Tanner. ....	Bottom.	30	S. 69° W. ....	.6	
63	63	.....	Surface tow. ....	Surface.	18	S. 69° W. ....	.2	Hauled once.
63	63	47.8	Tnr. sdg. mch. ....					
{ 65	63	.....	Hand lead. ....					
65	63	.....	10 hand lines ...	Bottom.	50	None. ....		Poor catch.
{ 78	66	58.8	Tnr. sdg. mch. ....					
78	66	58.8	8' Tanner. ....	Bottom.	10	S. 19° W. ....	.3	
78	66	.....	Tnr. sdg. mch. ....					
{ 73	66	46.8	Tnr. sdg. mch. ....					
73	66	.....	Surface tow. ....	Surface.	31	S. 48° W. ....	.6	Sounded while dred'g: 47 fms. Hauled once.
73	66	46.8	8' Tanner. ....	Bottom.	21	S. 48° W. ....	.4	Much mud; net slightly torn by its weight.
68	66	51.8	Tnr. sdg. mch. ....					
{ 71	66	46.8	Tnr. sdg. mch. ....					
71	66	46.8	8' Tanner. ....	Bottom.	20	S. 42° W. ....	.4	
69	66	47.8	Tnr. sdg. mch. ....					
{ 55	54	45.9	Tnr. sdg. mch. ....					
55	54	45.9	8' Tanner. ....	Bottom.	15	S. 85° E. ....	.3	Very heavy load; net slightly torn from weight. Dug out part from boat; let rest go.
55	54	46.8	Tnr. sdg. mch. ....					
{ 54	55	45.8	Tnr. sdg. mch. ....					
54	55	45.8	8' Tanner. ....	Bottom.	15	N. 80° E. ....	.4	
54	55	45.7	Tnr. sdg. mch. ....					
{ 54	55	45.5	Tnr. sdg. mch. ....					
54	55	45.5	8' Tanner. ....	Bottom.	15	N. 41° E. ....	.4	
54	55	45.3	Tnr. sdg. mch. ....					
{ 54	55	48.2	Tnr. sdg. mch. ....					
54	55	48.2	8' Tanner. ....	Bottom.	21	S. 74° W. ....	.5	Sounded while dred'g: 26, 23 fms.
54	55	49.8	Tnr. sdg. mch. ....					
{ 54	55	49.1	Tnr. sdg. mch. ....					
54	55	49.1	8' Tanner. ....	Bottom.	27	N. 37° W. ....	.6	Sounded while dred'g: 26 fms. Lost one trawl weight.

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Record of dredging and other collecting and hydrographic stations of

Date.	Station numbers.	Time of day.	Positions by true bearings.	Depth.	Character of bottom.	Chart used.
<i>Queen Charlotte Sound, off Fort Rupert, Vancouver Island, B. C.—Continued.</i>						
1908. June 25	H. 4732	3.30 p. m.	Center of Round Id., N. 17° W., 0.9 mile.	Fms. 30	gn. m. s. brk. sh.	H. O. No. 1431.
25	D. 4204	{ 3.44 p. m. 4.04 p. m.	{ Center of Round Id., N. 79° W., 1.6 miles.	{ 69 69-51	{ gn. m. vol. s. g. gn. m. vol. s. g.	{ .....do .....do
25	H. 4733	4.37 p. m.	Center of Round Id., N. 62° W., 1.3 miles.	51	gn. m. s.	.....do
<i>Admiralty Inlet, vicinity of Port Townsend, Wash.</i>						
29	D. 4205	{ 1.11 p. m. 2.03 p. m.	{ Admiralty Head light, N. 38° W., 1.3 miles.	{ 26 26-15	{ r. sh. r. sh.	{ C. S. No. 6450. .....do
29	H. 4734	2.21 p. m.	Admiralty Head light, N. 66° W., 0.8 mile.	15	r. sh.	.....do
29	D. 4206	{ 2.45 p. m. 2.53 p. m.	{ Admiralty Head light, N. 69° W., 2 miles.	{ 25 25-22	{ r. sh. r. crs. s. sh. (barnacles)	{ .....do .....do
29	H. 4735	3.12 p. m.	Admiralty Head light, N. 84° W., 1.8 miles.	22	r. crs. s. sh. (barnacles)	.....do
29	D. 4207	{ 3.41 p. m. 3.48 p. m.	{ Admiralty Head light, N. 30° W., 1.7 miles.	{ 50 50-66	{ r. s. brk. sh. r. s. brk. sh.	{ .....do .....do
29	H. 4736	4.18 p. m.	Admiralty Head light, N. 25° W., 3.1 miles.	66	gy. s. bk. sp. g. r.	.....do
29	D. 4208	{ 4.27 p. m. 4.36 p. m.	{ Admiralty Head light, N. 22° W., 3.5 miles.	{ 83 83-99	{ rky. rky.	{ .....do .....do
29	H. 4737	4.45 p. m.	Admiralty Head light, N. 20° W., 2.5 miles.	99	rky.	.....do
30	D. 4209	{ 8.56 a. m. 8.58 a. m.	{ Admiralty Head light, N. 50° W., 0.6 mile.	{ 25 25-24	{ rky. crs. s. sh. rky. crs. s. sh.	{ .....do .....do
30	H. 4738	9.12 a. m.	Admiralty Head light, N. 66° W., 0.8 mile.	24	rky. crs. s. sh.	.....do
30	D. 4210	{ 9.20 a. m. 9.28 a. m.	{ Admiralty Head light, N. 73° W., 0.9 mile.	{ 25 25-23	{ crs. gy. s. sh. r. crs. gy. s. sh. r.	{ .....do .....do
30	D. 4211	9.46 a. m.	Admiralty Head light, N. 83° W., 1.3 miles.	23	crs. gy. s. brk. sh.	.....do
30	D. 4212	{ 9.52 a. m. 10.06 a. m.	{ Admiralty Head light, N. 88° W., 1.4 miles.	{ 23-19 19	{ crs. gy. s. brk. sh. crs. gy. s. brk. sh.	{ .....do .....do
30	D. 4213	{ 10.20 a. m. 10.52 a. m.	{ Admiralty Head light, N. 82° W., 2 miles.	{ 19-25 25	{ crs. gy. s. brk. sh. gy. s. brk. sh. r.	{ .....do .....do
30	H. 4739	{ 10.50 a. m. 11.08 a. m.	{ Admiralty Head light, N. 88° W., 1.6 miles.	{ 25-23 23	{ gy. s. brk. sh. r. gy. s. brk. sh. r.	{ .....do .....do
<i>Port Townsend (Bay), Wash.</i>						
July 1	D. 4214	8.43 a. m.	Kala Point, N. 41° W., 1.1 miles.	14	sft. gn. m. br. c.	C. S. No. 6405.
1	H. 4740	{ 8.53 a. m. 9.00 a. m.	{ Kala Point, N. 58° W., 0.6 mile.	{ 14-17 17	{ sft. gn. m. br. c. sft. gn. m. br. c.	{ .....do .....do
1	D. 4215	9.09 a. m.	Kala Point, N. 83° W., 0.5 mile.	17	gn. m. fine s. stk.	.....do
1	H. 4741	{ 9.18 a. m. 9.32 a. m.	{ Kala Point, S. 27° W., 0.9 mile.	{ 17-17 17	{ gn. m. fine s. stk. gn. m. fine s. stk.	{ .....do .....do
<i>Admiralty Inlet, vicinity of Port Townsend, Wash.</i>						
1	D. 4216	10.37 a. m.	Bush Point light, S. 28° E., 3.3 miles.	79	rky.	C. S. No. 6450.
1	H. 4742	{ 10.48 a. m. 11.14 a. m.	{ Bush Point light, S. 19° E., 2.9 miles.	{ 79-101 101	{ rky. g. brk. sh.	{ .....do .....do
1	D. 4217	11.23 a. m.	Bush Point light, S. 27° E., 2.9 miles.	77	g. brk. sh.	.....do
1	H. 4743	{ 11.36 a. m. 11.54 a. m.	{ Bush Point light, S. 20° E., 2.5 miles.	{ 77-90 90	{ g. brk. sh. g. p.	{ .....do .....do

United States Fisheries Steamer Albatross, in 1903—Continued.

Temperatures.			Apparatus used.	Trawl.		Drift.		Remarks.
Air.	Sur-face.	Bot-tom.		Depth.	Dura-tion.	Direction.	Dis-tance.	
54	55	49.3	Tnr. sdg. mch...					
54	55	47.6	Tnr. sdg. mch...					
	55	47.6	8' Tanner.....	Bottom	29	S. 47° W...	0.4	
	58	48.8	Tnr. sdg. mch...					
					<i>Mins.</i>		<i>Miles.</i>	
63	57	50.8	Tnr. sdg. mch...					
	57	50.8	8' Tanner.....	Bottom	16	N. 2° W...	.4	Net slightly torn.
	63	57	Hand lead.....			(Sounded bet'n H. 4734 and D. 4206: 15, 16, 16, 15½, 15½, 17, 19, 23 fms.)		
59	57	50.8	Hand lead.....					Sounded while dred'g: 20, 20, 19½ fms.
59	57	50.8	8' Tanner.....	Bottom	20	N. 4° W...	.4	
	59	52.8	Tnr. sdg. mch...					
59	57	51.8	Tnr. sdg. mch...					
	57	51.8	8' Tanner.....	Bottom	26	S. 32° E...	.9	No catch; net wrecked.
	59	50.3	Tnr. sdg. mch...					
59	57	50.5	Tnr. sdg. mch...					
	59	50.5	8' Tanner.....	Bottom	6	N. 30° W...	.3	Moderate current; very small catch.
59	57	50.3	Tnr. sdg. mch...					
58	58	50.3	Hand lead.....					Sounded while dred'g: 24, 24, 24 fms.
	58	50.3	8' Tanner.....	Bottom	11	N. 84° E...	.2	
58	58	50.3	Hand lead.....					
58	58	50.7	Tnr. sdg. mch...					Sounded while dred'g: 18, 16, 17 fms.
58	58	50.7	8' Tanner.....	Bottom	14	N. 77° E...	.3	
	58	50.9	Tnr. sdg. mch...					Sounded while dred'g: 23, 17½, 17 fms.
58	58	50.9	8' Tanner.....	Bottom	11	N. 77° E...	.2	
	58	51.0	Tnr. sdg. mch...					Sounded while dred'g: 19, 18, 18, 21 fms.
58	58	51.0	8' Tanner.....	Bottom	18	S. 62° E...	.3	
	60	51.3	Tnr. sdg. mch...					Sounded while dred'g: 22 fms.
60	53	51.3	8' Tanner.....	Bottom	14	N. 63° W...	.3	
	54	52.8	Tnr. sdg. mch...					
56	53	.....	Hand lead.....					Sounded while dred'g: 17, 17½, 17½, 17 fms. Much mud in net.
56	53	50.8	9' Tanner.....	Bottom	11	N. 20° W...	.4	
	58	50.8	Tnr. sdg. mch...					
58	54	50.1	Tnr. sdg. mch...					Sounded while dred'g: 16½, 16½, 16½, 16½, 16 fms.
58	54	50.1	9' Tanner.....	Bottom	15	N. 10° W...	.6	
	58	50.2	Tnr. sdg. mch...					
61	55	49.0	Tnr. sdg. mch...					
	55	49.0	8' Tanner.....	Bottom	20	S. 76° E...	.4	Small catch.
	57	48.8	Tnr. sdg. mch...					
57	53	49.3	Tnr. sdg. mch...					
	53	49.3	8' Tanner.....	Bottom	13	S. 78° E...	.2	
	57	49.4	Tnr. sdg. mch...					

## Record of dredging and other collecting and hydrographic stations of

Date.	Station numbers.	Time of day.	Positions by true bearings.	Depth.	Character of bottom.	Chart used.
<b>1908.</b>						
<i>Admiralty Inlet, vicinity of Port Townsend, Wash.—Continued.</i>						
July 1	D. 4218	1.56 p. m.	Olele Point, Oak Bay, S. 26° E., 1.9 miles.	Fms. 16	sft. gn. m. ....	C. S. No. 6450.
		1.59 p. m.		16-16	sft. gn. m. ....	
1	D. 4219	2.13 p. m.	Olele Point, Oak Bay, S. 27° E., 1.5 miles.	16	gn. m. s. brk. sh. ....	do
		2.20 p. m.		16-26-16	gn. m. s. brk. sh. ....	
1	D. 4220	2.50 p. m.	Olele Point, Oak Bay, S. 20° E., 0.8 mile.	16	gn. m. s. brk. sh. ....	do
		2.55 p. m.		16-31	gn. m. s. brk. sh. ....	
1	D. 4221	3.24 p. m.	Olele Point, Oak Bay, S. 37° W., 0.5 mile.	31	gn. m. s. brk. sh. ....	do
		3.29 p. m.		31-39	gn. m. s. brk. sh. ....	
1	D. 4222	3.51 p. m.	Olele Point, Oak Bay, S. 61° W., 1.4 miles.	39	gy. s. brk. sh. ....	do
		4.02 p. m.		39-39	gy. s. brk. sh. ....	
1	H. 4744	4.24 p. m.	Olele Point, Oak Bay, S. 86° W., 1.6 miles.	89	gy. s. brk. sh. ....	do
<i>Boca de Quadra, S. E. Alaska.</i>						
6	D. 4223	8.30 a. m.	Center of Grouse Islet, Mink Bay, N. 20° W., 2.5 miles.	48	sft. gn. m. ....	C. S. No. 8100
		8.36 a. m.		48-57	sft. gn. m. ....	
6	H. 4745	8.59 a. m.	Center of Grouse Islet, Mink Bay, N. 20° W., 2 miles.	57	dk. gn. m. ....	do
6	D. 4224	9.57 a. m.	Center of Cygnet Islet, S. 14° W., 4.2 miles.	156	dk. gn. m. ....	do
		10.11 a. m.		156-166	dk. gn. m. ....	
6	H. 4746	10.37 a. m.	Center of Cygnet Islet, S. 12° W., 3.2 miles.	166	dk. gn. m. ....	do
6	D. 4225	11.21 a. m.	Center of Cygnet Islet, S. 7° W., 2½ miles.	181	dk. gn. m. ....	do
		11.36 a. m.		181-149	dk. gn. m. ....	
6	H. 4747	11.56 a. m.	Center of Cygnet Islet, S. 7° W., 1½ miles.	149	dk. gn. m. ....	do
<i>Vicinity of Naha Bay, Behm Canal, S. E. Alaska.</i>						
7	D. 4226	9.06 a. m.	Center of Cache Islet, S. 67° W., 1.3 miles.	31	rky. ....	C. S. No. 8100
		9.18 a. m.		31-62	rky. ....	
7	D. 4227	9.37 a. m.	Center of Cache Islet, S. 56° W., 0.9 miles.	62	dk. gn. m. fine s. ....	do
		9.43 a. m.		62-65	dk. gn. m. fine s. ....	
7	D. 4228	9.50 a. m.	Indian Point, N. 18° E., 0.9 mile.	41	g. sponge. ....	do
		10.40 a. m.		41-134	g. sponge. ....	
7	H. 4748	10.45 a. m.	Indian Point, N. 18° E., 0.9 mile.	134	g. sponge. ....	do
7	D. 4229	11.36 a. m.	Indian Point, N. 30° E., 0.6 mile.	198	rky. ....	do
		1.04 p. m.		198-256	sft. gy. m. ....	
7	H. 4749	1.12 p. m.	Indian Point, N. 69° E., 2.7 miles.	256	sft. gy. m. ....	do
		1.24 p. m.		256	stk. gn. m. ....	
7	D. 4230	1.47 p. m.	Indian Point, N. 70° E., 4.5 miles.	240	rky. ....	do
		2.11 p. m.		240-108	rky. ....	
7	H. 4750	2.15 p. m.	Indian Point, N. 70° E., 5 miles.	108	rky. ....	do
		2.28 p. m.		108	rky. ....	
7	D. 4231	2.41 p. m.	Center of Trunk Id., N. 11° E., 0.5 mile.	113	gn. m. slate frag. ....	do
		3.22 p. m.		113-82	gn. m. slate frag. ....	
7	D. 4232	3.35 p. m.	Center of Trunk Id., N. 64° E., 1.1 miles.	82	gn. m. sponge, rky. ....	do
		3.47 p. m.		82-93-77	gn. m. sponge, rky. ....	
7	H. 4751	4.12 p. m.	Center of Trunk Id., N. 64° E., 1.1 miles.	77	gn. m. sponge, rky. ....	do
7	H. 4751	4.35 p. m.	Center of Trunk Id., N. 81° E., 1.5 miles.	77	gn. m. g. ....	do

United States Fisheries Steamer Albatross, in 1903—Continued.

Temperatures.			Apparatus used.	Trial.		Drift.		Remarks.
Air.	Surf- face.	Bot- tom.		Depth.	Duration.	Direction.	Dis- tance.	
					<i>Mins.</i>		<i>Miles.</i>	
59	54	51.8	Tnr. sdg. mch.					Sounded while dred'g: 15 $\frac{1}{2}$ , 15, 15, 14 fms.
59	54	51.8	8' Tanner.	Bottom.	11	S. 24° E.	.3	
59	54	51.8	Tnr. sdg. mch.					Sounded while dred'g: 15, 21, 24, 24, 26, 24, 20, 16, 18 fms.
59	54	51.8	8' Tanner.	Bottom.	19	S. 36° E.	.6	
59	54	50.8	Hand lead.					Sounded while dred'g: 18 23, 30, 25, 20, 31 fms.
59	54	50.8	8' Tanner.	Bottom.	12	S. 52° E.	.3	
59	54	51.8	(Depth est'd from chart and dredging cable.)					
59	54	51.8	8' Tanner.	Bottom.	18	N. 72° E.	.7	
59	54	50.8	Tnr. sdg. mch.					
59	54	50.8	8' Tanner.	Bottom.	19	S. 23° E.	.4	
65	56	51.0	Tnr. sdg. mch.					
61	59	44.6	Tnr. sdg. mch.					
61	59	44.6	8' Tanner.	Bottom.	19	N. 20° W.	.4	
67	60	45.0	Tnr. sdg. mch.					
71	61	43.7	Tnr. sdg. mch.					
71	61	43.7	8' Tanner.	Bottom.	22	S. 20° W.	.5	Heavy load of mud, mixed with dead leaves, twigs, etc., in net. Net filled completely, and torn from weight of load.
71	61	43.6	Tnr. sdg. mch.					
71	62	43.6	Tnr. sdg. mch.					
71	62	43.6	9' Tanner.	Bottom.	11	S. 7° W.	.2	Net torn badly; probably by submerged tree.
71	62	43.7	Tnr. sdg. mch.					
63	61	44.8	Tnr. sdg. mch.					Sounded while dredging: 44 fms.
63	61	44.8	8' Tanner.	Bottom.	15	N. 81° W.	.3	
63	61	43.8	Tnr. sdg. mch.					Lost sounding lead. Sounded while dred'g: 65, 65 fms.
63	61	.....	Surface tow	Surface.	32	N. 77° W.	.6	Hauled once.
63	61	43.8	8' Tanner.	Bottom.	24	N. 77° W.	.5	Net torn slightly.
70	63	47.8	Tnr. sdg. mch.					Sounded while dred'g: 52 fms.
70	63	.....	Surface tow	Surface.	14	N. 2° W.	.3	Hauled once.
70	63	47.8	8' Tanner.	Bottom.	11	N. 2° W.	.2	Net completely filled with sponges.
81	62	.....	Tnr. sdg. mch.					
76	68	42.6	Tnr. sdg. mch.					
76	68	.....	Surface tow	Surface.	33	S. 73° W.	1.0	Hauled once.
76	63	42.6	8' Tanner.	Bottom.	20	S. 73° W.	.7	
74	62	42.4	Tnr. sdg. mch.					
74	62	42.4	Tnr. sdg. mch.					
74	62	42.4	Tnr. sdg. mch.					
74	62	42.4	Surface tow	Surface.	23	S. 70° W.	.4	Hauled once.
74	62	42.4	8' Tanner.	Bottom.	10	S. 70° W.	.2	Heavy strains, but no damage done.
74	62	43.0	Tnr. sdg. mch.					
74	62	43.0	Tnr. sdg. mch.					
74	62	43.0	8' Tanner.	Bottom.	13	S. 85° W.	.3	
74	62	43.3	Tnr. sdg. mch.					Sounded while dred'g: 93 fms.
74	62	43.3	8' Tanner.	Bottom.	18	N. 53° W.	.3	Bridle stops parted; net cap- sized.
74	62	43.7	Tnr. sdg. mch.					

## Record of dredging and other collecting and hydrographic stations of

Date.	Station numbers.	Time of day.	Positions by true bearings.	Depth.	Character of bottom.	Chart used.	
<i>Vicinity of Yes Bay, Behm Canal.</i>							
1903. July	8 D. 4233	8.52 a. m.	Cannery Point, Yes Bay, N. 55° W., 1 mile.	Fms. 39 39-45 45	sft. gy. m. f. ....	C. S. No. 8100	
		9.03 a. m.			sft. gy. m. f. ....		
		9.20 a. m.			gy. m. rky. ....		
	8 U. 4234	9.37 a. m.	Cannery Point, Yes Bay, N. 54° W., 1.5 miles.	45-45	gy. m. rky. ....	do	
		9.59 a. m.			gy. m. rky. ....		
	8 H. 4762	10.24 a. m.	East End, Square Id., Spacious Bay, S. 48° W., 1.9 miles.	130-193- 181	gy. m. bk. sp. ....	do	
					181		gn. m. ....
	8 D. 4235	10.45 a. m.	East End, Square Id., Spacious Bay, N. 87° E., 1.2 miles.	147-205- 182	r. crs. s. ....	do	
		11.20 a. m.			r. crs. s. ....		
	8 H. 4753	1.25 p. m.	East End, Square Id., Spacious Bay, S. 31° W., 1.2 miles.	182	gn. m. ....	do	
		1.43 p. m.			gn. m. ....		
	8 D. 4236	2.09 p. m.	East End, Square Id., Spacious Bay, N. 85° W., 0.9 mile.	194-198- 192	gn. m. ....	do	
		2.34 p. m.			gn. m. ....		
	8 H. 4754	2.52 p. m.	East End, Square Id., Spacious Bay, N. 85° W., 1 mile.	192	gn. m. ....	do	
		3.21 p. m.			gn. m. ....		
8 D. 4237	3.51 p. m.	Nose Point, S. 66° E., 1.6 miles.	229-231- 231	m. rky. ....	do		
	4.13 p. m.			m. rky. ....			
8 H. 4755	4.38 p. m.	Nose Point, N. 42° E., 1.7 miles.	231	gn. m. ....	do		
	<i>Junction of Clarence Strait and Behm Canal.</i>						
9	D. 4239	1.02 p. m.	Center of Guard Id., S. 28° E., 2.1 miles.	206-248	crs. s. rky. ....	C. S. No. 8100	
		1.24 p. m.			crs. s. rky. ....		
	D. 4240	2.15 p. m.	Center of Guard Id., S. 70° E., 3.1 miles.	248-256- 256	co. (hrd.) ....	do	
		2.33 p. m.			co. (hrd.) ....		
	H. 4757	3.05 p. m.	Center of Guard Id., S. 81° E., 4.1 miles.	245-238- 238	dk. gn. m. ....	do	
		3.31 p. m.			gn. m. ....		
	D. 4241	3.49 p. m.	Center of Guard Id., S. 83° E., 4.5 miles.	245-238- 238	gn. m. ....	do	
		4.16 p. m.			gn. m. ....		
	H. 4758	3.49 p. m.	Center of Guard Id., N. 87° E., 5.5 miles.	238	gn. m. ....	do	
					4.16 p. m.		gn. m. ....
	<i>Kasaan Bay, Prince of Wales Island, S. E. Alaska.</i>						
	11 D. 4242	7.58 a. m.	Sandy Point, S. 20° E., 1.5 miles.	9-24	fne. g. brk. sh. rky. ....	C. S. No. 8100	
8.01 a. m.		fne. g. brk. sh. rky. ....					
11 H. 4759	8.46 a. m.	Sandy Point, S. 19° W., 1.1 miles.	42-47	crs. gy. s. m. ....	do		
	9.03 a. m.			gn. m. ....			
11 D. 4243	9.06 a. m.	Sandy Point, N. 62° W., 1.2 miles.	47	gn. m. ....	do		
	9.30 a. m.			gn. m. ....			
11 H. 4760	9.38 a. m.	Sandy Point, N. 59° W., 2.2 miles.	50-54	gn. m. ....	do		
	9.41 a. m.			gn. m. ....			
11 D. 4244	10.04 a. m.	Sandy Point, N. 61° W., 3.8 miles.	95-98	gn. m. ....	do		
	10.58 a. m.			gn. m. ....			
11 H. 4761	11.04 a. m.	Center of Round Id., S. 10° W., 0.4 mile.	98	dk. gn. m. s. sh. r. ....	do		
	11.37 a. m.			dk. gn. m. s. ....			
11 D. 4245	2.15 p. m.	Center of Round Id., S. 72° W., 0.5 mile.	123-101	gy. gn. m. crs. s. sh. ....	do		
	2.26 p. m.			gy. gn. m. crs. s. sh. ....			
11 H. 4763	2.55 p. m.	East End, Long Id., N. 55° W., 3 miles.	101	gn. m. fne. s. brk. sh. ....	do		
	3.26 p. m.			gn. m. fne. s. brk. sh. ....			
11 D. 4247	3.40 p. m.	East End, Long Id., N. 78° W., 1.1 miles.	89	gn. m. fne. s. brk. sh. ....	do		
	4.13 p. m.			s. sh. ....			
11 H. 4764	4.13 p. m.	East End, Long Id., S. 51° W., 0.9 mile.	89	s. sh. ....	do		



United States Fisheries Steamer Albatross, in 1903—Continued.

Temperatures.			Apparatus used.	Trial.		Drift.		Remarks.
Air.	Sur- face.	Bot- tom.		Depth.	Dura- tion.	Direction.	Dis- tance.	
					<i>Mins.</i>		<i>Miles.</i>	
{ 64	61	44.7	Tnr. sdg. mch.					
64	61	44.7	8' Tanner.	Bottom.	15	S. 58° E.	.3	Sounded while dred'g: 46 fms. Net badly torn.
64	61	43.7	Tnr. sdg. mch.					
64	61	43.7	8' Tanner.	Bottom.	19	S. 36° E.	.3	
65	61	44.9	Tnr. sdg. mch.					
65	61	44.9	8' Tanner.					
{ 64	61	42.8	Tnr. sdg. mch.					Sounded while dred'g: 198 fms. Heavy load in net.
64	61	42.8	8' Tanner.	Bottom.	28	S. 7° E.	.5	
64	61	42.7	Tnr. sdg. mch.					
65	61	42.8	Tnr. sdg. mch.					Sounded while dred'g: 205 fms.
65	61	42.8	8' Tanner.	Bottom.	21	S. 9° E.	.4	
64	60	42.6	Tnr. sdg. mch.					
64	60	42.6	Tnr. sdg. mch.					Sounded while dred'g: 198 fms.
64	60	42.6	8' Tanner.	Bottom.	22	S. 29° E.	.4	
66	63	42.6	Tnr. sdg. mch.					
66	63	42.5	Tnr. sdg. mch.					Sounded while dred'g: 198 fms.
66	63	42.5	8' Tanner.	Bottom.	20	S. 9° E.	.7	
68	65	42.4	Tnr. sdg. mch.					
61	61	48.8	Tnr. sdg. mch.					Sounded while dred'g: 198 fms.
61	61	48.8	8' Tanner.	Bottom.	20	S. 68° W.	.7	
66	62	48.8	Tnr. sdg. mch.					
66	62	48.8	8' Tanner.	Bottom.	23	S. 67° W.	.5	Net slightly torn; lost one trawl weight.
66	62	47.8	Tnr. sdg. mch.					
66	62	47.8	8' Tanner.	Bottom.	23	S. 67° W.	.5	
66	62	49.3	Tnr. sdg. mch.					Large load in net.
66	62	49.3	8' Tanner.	Bottom.	20	S. 50° W.	.5	
64	60	48.8	Tnr. sdg. mch.					
48	58	58.9	Tnr. sdg. mch.					Sounded while dred'g: 21, 22, 24 fms. Net badly torn.
48	58	58.9	8' Tanner.	Bottom.	42	S. 78° E.	.8	
48	58	49.1	Tnr. sdg. mch.					
{ 55	57	49.1	Tnr. sdg. mch.					Sounded while dred'g: 21, 22, 24 fms. Net badly torn.
55	57	49.1	8' Tanner.	Bottom.	21	S. 53° E.	.5	
55	57	49.1	Tnr. sdg. mch.					
{ 55	57	49.0	Tnr. sdg. mch.					Sounded while dred'g: 21, 22, 24 fms. Net badly torn.
55	57	49.0	8' Tanner.	Bottom.	20	S. 67° E.	.6	
55	57	48.9	Tnr. sdg. mch.					
{ 59	62	48.9	Tnr. sdg. mch.					Net slightly torn; brought up large rock.
59	62	48.9	8' Tanner.	Bottom.	17	S. 56° E.	.2	
59	62	49.0	Tnr. sdg. mch.					
{ 66	62		Tnr. sdg. mch.					Sounded while dred'g: 111, 114, 106 fms.
66	62	44.1	8' Tanner.	Bottom.	25	N. 56° W.	.6	
66	62	44.1	Tnr. sdg. mch.					
65	62	44.3	Tnr. sdg. mch.					Sounded while dred'g: 111, 114, 106 fms.
65	62	44.3	8' Tanner.	Bottom.	18	N. 28° W.	.4	
65	68		Tnr. sdg. mch.					
65	68		Tnr. sdg. mch.					Sounding wire flew off reel and kinked; thermometer did not trip.

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Record of dredging and other collecting and hydrographic stations of

Date.	Station numbers.	Time of day.	Positions by true bearings.	Depth.	Character of bottom.	Chart used.
<i>Eastern Passage (vicinity Sitkine River Delta).</i>						
1908.				<i>Fms.</i>		
July 13	D. 4248	{ 8.50 a. m. 8.59 a. m.	{ Center of Simonof Id., N. 69° W., 2.8 miles.	{ 71 71-67	{ gy. m. gy. m.	{ C. S. No. 8200 do
13	H. 4765	{ 9.28 a. m.	{ Center of Simonof Id., N. 61° W., 5.2 miles.	{ 67	{ gy. m.	{ do
13	D. 4249	{ 9.33 a. m. 9.40 a. m.	{ Center of Simonof Id., N. 61° W., 5.3 miles.	{ 79 79-70	{ gy. m. gy. m.	{ do do
13	H. 4766	{ 10.04 a. m.	{ Center of Simonof Id., N. 63° W., 6 miles.	{ 70	{ gy. m.	{ do
13	D. 4250	{ 10.17 a. m. 10.23 a. m.	{ Center of Simonof Id., N. 52° W., 6.2 miles.	{ 66 66-61	{ gy. m. gy. m.	{ do do
13	H. 4767	{ 10.47 a. m.	{ Center of Simonof Id., N. 49° W., 7 miles.	{ 61	{ gy. m.	{ do
<i>Stephens Passage.</i>						
14	H. 4768	7.45 a. m.	Hugh Point, S. 67° W., 3.5 miles.	59	rky	C. S. No. 8200
14	D. 4251	{ 7.58 a. m. 8.15 a. m.	{ Hugh Point, S. 71° W., 3.4 miles.	{ 198 198-198	{ rky rky	{ do do
14	H. 4769	8.49 a. m.	Hugh Point, S. 85° W., 3.7 miles.	198	gy. m.	do
14	D. 4252	{ 9.03 a. m. 9.20 a. m.	{ Hugh Point, N. 89° W., 3.9 miles.	{ 198 198-201	{ gy. m. gy. m.	{ do do
14	H. 4770	{ 9.44 a. m.	{ Hugh Point, N. 81° W., 4.5 miles.	{ 201	{ gy. m.	{ do
14	D. 4253	{ 10.51 a. m. 11.04 a. m.	{ Thistle Ledge, N. 53° E., 1.7 miles.	{ 188 188-131	{ r. brk. sh. r. brk. sh.	{ do do
14	H. 4771	11.23 a. m.	Thistle Ledge, N. 40° E., 1.3 miles.	136	r. brk. sh.	do
<i>Chilkoot Inlet.</i>						
16	D. 4254	{ 10.14 a. m. 10.17 a. m.	{ Indian Rock, S. 63° E., 3.3 miles.	{ 45 45-51	{ gn. m. gn. m.	{ C. S. No. 8303 do
16	H. 4772	10.39 a. m.	Indian Rock, S. 61° E., 2.5 miles.	51	gn. m.	do
<i>Taiya Inlet, Lynn Canal.</i>						
16	D. 4255	{ 12.53 p. m. 1.08 p. m.	{ Indian Rock, S. 9° W., 8.1 miles.	{ 247 247-259	{ rky rky	{ do do
16	H. 4773	1.32 p. m.	Indian Rock, S. 9° W., 6.8 miles.	259	(No specimen.)	do
<i>Chilkoot Inlet.</i>						
16	D. 4256	{ 2.30 p. m. 2.36 p. m.	{ Indian Rock, N. 3° W., 2 miles.	{ 73 73-72	{ gy. m. gy. m.	{ do do
16	H. 4774	2.57 p. m.	Indian Rock, N. 29° W., 1.6 miles.	72	gy. m.	do
<i>Vicinity of Funter Bay, Lynn Canal.</i>						
23	D. 4257	1.56 p. m.	Clear Point, N. 63° E., 1.7 miles.	350	rky	C. S. No. 8302
23	D. 4258	{ 2.22 p. m. 3.27 p. m.	{ Clear Point, N. 16° E., 3.5 miles.	{ 350 300	{ rky m.	{ do do
23	H. 4775	{ 3.48 p. m. 4.32 p. m.	{ Clear Point, N. 20° E., 5.9 miles.	{ 300-313 313	{ m. m.	{ do do
<i>Dundas Bay, Icy Strait.</i>						
24	D. 4259	{ 1.41 p. m. 1.55 p. m.	{ Point Wimbleton, S. 46° W., 0.1 mile.	{ 78 78-21	{ gy. s. brk. sh. r. gy. s. brk. sh. r.	{ C. S. No. 8050 do
24	D. 4260	{ 2.24 p. m. 2.27 p. m.	{ Point Wimbleton, S. 25° W., 0.2 mile.	{ 21-84	{ crs. s. r.	{ do
24	D. 4261	{ 2.57 p. m. 2.59 p. m.	{ Point Wimbleton, S. 24° W., 0.3 mile.	{ 10	{ gn. m. rky	{ do
24	D. 4262	{ 3.26 p. m. 3.27 p. m.	{ Point Wimbleton, S. 10° W., 0.4 mile.	{ 10-84-10 9	{ gn. m. rky crs. s. rky	{ do do
24	D. 4263	{ 3.40 p. m. 3.42 p. m.	{ Point Wimbleton, S. 20° W., 0.4 mile.	{ 9-9 9-64-8	{ crs. s. rky crs. s. rky	{ do do

RECORDS OF ALBATROSS.

United States Fisheries Steamer Albatross, in 1903—Continued.

Temperatures.			Apparatus used.	Trial.		Drift.		Remarks.	
Air.	Sur-face.	Bot-tom.		Depth.	Dura-tion.	Direction.	Dis-tance.		
{ 56	55	42.8	Tnr. sdg. mch.	Bottom	20	S. 44° E	1.0	Strong current.	
	56	42.8	8' Tanner.						
	56	43.3	Tnr. sdg. mch.						
{ 56	55	43.6	Tnr. sdg. mch.	Bottom	20	S. 11° E	.7		
	56	43.6	8' Tanner.						
	56	43.0	Tnr. sdg. mch.						
{ 56	55	42.8	Tnr. sdg. mch.	Bottom	20	S. 15° E	.5		
	56	42.8	8' Tanner.						
	56	43.3	Tnr. sdg. mch.						
54	51	40.5	Tnr. sdg. mch.						
{ 54	51	40.9	Tnr. sdg. mch.	Bottom	20	S. 39° E	.4	Net badly torn; lost one trawl weight.	
	54	40.9	8' Tanner.						
54	51	40.9	Tnr. sdg. mch.						
{ 54	52	40.8	Tnr. sdg. mch.	Bottom	20	S. 39° E	.4		
	54	40.8	8' Tanner.						
	54	39.9	Tnr. sdg. mch.						
{ 54	52	40.9	Tnr. sdg. mch.	Bottom	16	East	.2	Sound, while dredg.: 131 fms. Big haul of enormous barnacles.	
	54	40.9	8' Tanner.						
55	51	40.5	Tnr. sdg. mch.						
{ 57	54	40.0	Tnr. sdg. mch.	Bottom	20	SE	.4		
	57	40.0	8' Tanner.						
	57	40.0	Tnr. sdg. mch.						
{ 60	53	36.8	Tnr. sdg. mch.	Bottom	14	S. 2° W	.3		Rich haul.
	60	36.8	8' Tanner.						
	60	36.8	Tnr. sdg. mch.						
{ 61	58	38.5	Tnr. sdg. mch.	Bottom	20	NE	.6		
	61	38.5	8' Tanner.						
	62	38.3	Tnr. sdg. mch.						
{ 64	57			(Depth estd. from chart and dredg-ing cable.)			Lost all gear from Tnr. sdg. mch.		
	64	57	8' Tanner.	Bottom	24	S. 18° W		0.6	
	64	57	Tnr. sdg. mch.						
	64	57	41.2	8' Tanner.	Bottom	27		S. 25° W	.7
	63	55	41.2	Tnr. sdg. mch.					
{ 62	50	44.7	Tnr. sdg. mch.	Bottom	9	N. 16° W	.1	Interfered with by drift ice. Sound, while dredg.: 16, 12, 10½, 10, 9½, 9½, 9, 8½ fms. Net badly torn; much ice about. Sound, while dredg.: 8½, 8½, 8½, 8½, 9, 9½, 10 fms. Interfered with by drift ice. Sound, while dredg.: 9½, 8, 9 fms. Interfered with by drift ice. Sound, while dredg.: 9, 7, 6½, 6½, 6½, 6½, 6½, 7½, 8. Net badly torn; much ice, interfering with work.	
	62	50	44.7						8' Tanner.
	59	51	44.2						Tnr. sdg. mch.
59	51	44.2	8' Tanner.	Bottom	15	N. 16° W	.1		
59	51		Hand lead						
59	51		8' Tanner.	Bottom	20	S. 70° W	.1		
	59	51	Hand lead						
59	51		8' Tanner.	Bottom	7	S. 60° E	.1		
	53	51	Hand lead						
53	51		8' Tanner.	Bottom	25	S. 76° W	.1		

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Record of dredging and other collecting and hydrographic stations of

Date.	Station numbers.	Time of day.	Positions by true bearings.	Depth.	Character of bottom.	Chart used.
<i>Off Freshwater Bay, Chatham Strait.</i>						
1908.				<i>Fms.</i>		
July 25	D. 4264	2.42 p. m.	North Passage Point, N. 50° W., 3 miles.	292	gn. m. ....	C. S. No. 8300
		3.03 p. m.		293-282	gn. m. ....	
July 25	H. 4776	3.38 p. m.		North Passage Point, N. 72° W., 3 miles.	282	
<i>Off Sitka Sound.</i>						
31	D. 4265	10.16 a. m. 11.02 a. m.	Cape Edgecumbe, N. 69° E., 11 miles.	590 590	gn. m. rky ..... gn. m. rky .....	C. S. No. 8000
31	D. 4266	1.27 p. m. 2.00 p. m.	Cape Edgecumbe, N. 89° E., 9.2 miles.	349 250	gy. gn. m. rky ..... gy. gn. m. rky .....	do .....
31	D. 4267	4.34 p. m. 5.31 p. m.	Cape Edgecumbe, S. 84° E., 21 miles.	922 922	sft. gy. m. .... sft. gy. m. ....	do .....
<i>Afognak Bay, Afognak Island.</i>						
Aug. 3	D. 4268	1.56 p. m. 1.59 p. m. 2.24 p. m.	Point Lipsett, N. 83° W., 1.9 miles.	16 16-17 14	gy. s. brk. sh ..... gy. s. brk. sh ..... hrd. gy. s. r. ....	F. C. Survey, Edn. 1900.
3	D. 4269	2.29 p. m.	Point Lipsett, S. 82° W., 1.5 miles.	14-19 14	hrd. gy. s. r. .... hrd. gy. s. r. ....	do .....
3	D. 4270	3.18 p. m. 3.20 p. m. 3.49 p. m.	Point Lipsett, SW., 1 mile.	14-19-16 11	hrd. gy. s. r. .... hrd. gy. s. r. ....	do .....
3	D. 4271	3.55 p. m.	Point Lipsett, S. 8° W., 1 mile.	11-20- 17	hrd. gy. s. r. .... stk. m. ....	do .....
3	D. 4272	4.13 p. m. 4.17 p. m.	Point Lipsett, S. 15° E., 1.7 miles.	17-12	stk. m. ....	do .....
<i>Alitak Bay, Kadiak Id.</i>						
6	D. 4273	8.44 a. m.	Cape Alitak, S. 41° W., 7.1 miles.	36	gn. m. fine s. ....	do .....
6	D. 4274	8.50 a. m. 9.13 a. m. 9.22 a. m.	Cape Alitak, S. 44° W., 6.2 miles.	36-41 41	gn. m. fine s. .... gn. m. fine s. ....	do .....
6	D. 4275	9.47 a. m. 9.56 a. m.	Cape Alitak, SW., 5.5 miles.	41-35 35	gn. m. fine s. .... gn. m. fine s. ....	do .....
6	H. 4778	10.23 a. m.	Cape Alitak, SW., 4.7 miles.	35-36 36	gn. m. fine s. .... gn. m. fine s. ....	do .....
6	D. 4276	10.55 a. m. 11.03 a. m.	Cape Alitak, N. 88° W., 4 miles.	22 22-25	fine s. m. .... fine s. m. ....	do .....
6	D. 4277	11.24 a. m. 11.32 a. m.	Cape Alitak, S. 81° W., 4.4 miles.	25 25-25	gy. s. .... gy. s. ....	do .....
6	D. 4278	1.06 p. m. 1.11 p. m.	Cape Alitak, S. 71° W., 4.8 miles.	27 27-29	dk. gy. m. .... dk. gy. m. ....	do .....
6	D. 4279	1.88 p. m. 1.41 p. m.	Cape Alitak, S. 71° W., 5.5 miles.	29 29-29	dk. gy. m. r ..... dk. gy. m. r ..... dk. gy. m. r .....	do .....
6	H. 4779	2.03 p. m.	Cape Alitak, S. 59° W., 5.6 miles.	29	dk. gy. m. r .....	do .....
<i>Chignik Bay.</i>						
10	D. 4280	8.27 a. m. 8.31 a. m. 8.52 a. m.	Tullumnit Pt., S. 77° E., 9.2 miles.	32 32-42 42	gn. m. bk. s ..... gn. m. bk. s ..... gn. m. ....	F. C. Survey, Edn. 1897.
10	D. 4281	9.00 a. m.	Tullumnit Pt., S. 69° E., 9.2 miles.	42-43	gn. m. ....	do .....
10	H. 4780	9.15 a. m.	Tullumnit Pt., S. 67° E., 9 miles.	43	gn. m. fine s. ....	do .....

United States Fisheries Steamer Albatross, in 1903—Continued.

Temperatures.			Apparatus used.	Trawl.		Drift.		Remarks.
Air.	Sur-face.	Bot-tom.		Depth.	Dura-tion.	Direction.	Dis-tance.	
					<i>Mins.</i>		<i>Miles.</i>	
58	57	.....	Tnr. sdg. mch.					Scale on accumulator broke.
58	57	41.1	8' Tanner	Bottom	30	N. 30° E.	0.5	
58	57	41.1	Tnr. sdg. mch.					
63	53	38.2	Sig. sdg. mch.					Lost trawl frame, but re-covered net badly torn. Shoaled to 250 fms., as indicated by dredg. cable. Net wrecked; lost beam from frame, and runners were badly bent and twisted.
53	53	38.2	8' Tanner	Bottom	27	N. 49° E.	1.0	
62	56	39.2	Sig. sdg. mch.					
62	56	39.2	8' Tanner	Bottom	16	N. 42° E.	.7	
59	58	36.2	Sig. sdg. mch.					
59	58	36.2	8' Tanner	Bottom	21	N. 88° W.	.7	
57	54	50.9	Tnr. sdg. mch.	Bottom	19	NW	.5	Sound. while dredg.: 17½ fms.
57	54	60.9	8' Tanner					Sound. while dredg.: 19, 17½, 13, 13, 14 fms.
57	54	.....	Hand lead					Frame of trawl bent and twisted.
57	54	.....	8' Tanner	Bottom	22	N. 50° W.	.5	Sound. while dredg.: 17, 17½, 19, 16 fms.
56	53	.....	Hand lead					
56	53	.....	9' Tanner	Bottom	20	N. 47° W.	.5	Sound. while dredg.: 19, 19, 20, 17½ fms.
56	53	.....	Hand lead					
56	53	.....	9' Tanner	Bottom	20	N. 50° W.	.7	
52	54	.....	Hand lead					Sound. while dredg.: 15, 14½, 13, 12½, 12 fms.
52	54	.....	9' Tanner	Bottom	20	N. 20° W.	.5	
53	51	.....	Tnr. sdg. mch.					Lost 36 fms. sdg. wire, 26 ft. lead, and N. & Z. thermometer.
53	51	.....	9' Tanner	Bottom	20	S. 17° W.	.8	
53	51	.....	Tnr. sdg. mch.	Bottom	20	S. 36° W.	.6	
53	51	.....	9' Tanner					
53	51	44.4	Tnr. sdg. mch.	Bottom	24	S. 46° W.	.6	
52	51	44.4	9' Tanner					
55	52	.....	Tnr. sdg. mch.	Bottom	20	N. 23° E.	.8	
55	52	.....	9' Tanner					
55	52	.....	Tnr. sdg. mch.	Bottom	18	N. 52° E.	.7	
55	52	.....	9' Tanner					
64	53	.....	Tnr. sdg. mch.	Bottom	18	N. 65° E.	.5	
64	53	.....	9' Tanner					
63	53	.....	Tnr. sdg. mch.	Bottom	20	N. 15° W.	.9	
63	53	.....	9' Tanner					
63	53	.....	Tnr. sdg. mch.					
53	51	.....	Tnr. sdg. mch.					Sound. while dredg.: 42 fms.
53	51	.....	9' Tanner	Bottom	20	N. 25° E.	.9	
64	51	47.0	Tnr. sdg. mch.	Bottom	11	N. 40° E.	.3	Heavy strains, but no damage done.
64	51	47.0	9' Tanner					
64	51	.....	Tnr. sdg. mch.					

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Record of dredging and other collecting and hydrographic stations of

Date.	Station numbers.	Time of day.	Positions by true bearings.	Depth.	Character of bottom.	Chart used.
<i>Chignik Bay—Cont'd.</i>						
1908. Aug. 10	D. 4282	9.24 a. m.	Tullumnit Pt., S. 66° E., 8.8 miles.	Fms. 24	gy. s. br. sp. brk. sh. r.	F. C. Survey, Edn. 1897. .....do..... .....do..... .....do..... .....do..... .....do..... .....do..... .....do..... .....do..... .....do.....
		9.26 a. m.		24-21	gy. s. br. sp. brk. sh. r.	
	H. 4781	9.43 a. m.	Tullumnit Pt., S. 64° E., 8.5 miles.	21	gy. s. br. sp. brk. sh. r.	
	D. 4283	9.57 a. m.	Tullumnit Pt., S. 61° E., 7.5 miles.	30	bk. s. br. sp. ....	
		10.00 a. m.		30-41-30	bk. s. br. sp. ....	
	D. 4284	10.22 a. m.	Tullumnit Pt., S. 61° E., 7.1 miles.	30	gn. m. s. r. ....	
		10.30 a. m.		30-26	gn. m. s. r. ....	
	D. 4285	10.43 a. m.	Tullumnit Pt., S. 56° E., 6.2 miles.	31	gy. s. brk. sh. ....	
		10.46 a. m.		31-40-59	gy. s. brk. sh. ....	
	D. 4286	11.13 a. m.	Tullumnit Pt., S. 55° E., 5.9 miles.	67	gn. m. r. ....	
11.23 a. m.		57-63		gn. m. r. ....		
H. 4782	11.40 a. m.	Tullumnit Pt., S. 52° E., 5.3 miles.	63	gn. m. ....		
<i>Uyak Bay, Kodiak Id.</i>						
14	D. 4287	2.01 p. m.	South end of Harvester Island, N. 56° W., 4.7 miles.	66	gy. m. ....	.....do.....
		2.04 p. m.		66-67	gy. m. ....	
14	D. 4288	2.26 p. m.	South end of Harvester Island, N. 60° W., 4.3 miles.	67	gy. m. ....	.....do.....
		2.38 p. m.		67-69	gy. m. ....	
14	H. 4783	3.00 p. m.	S. end Harvester Id., N. 65° W., 3.6 miles.	69	gy. m. ....	.....do.....
14	D. 4289	3.15 p. m.	S. end Harvester Id., N. 89° W., 2.6 miles.	80	gy. m. ....	.....do.....
		3.20 p. m.		80-74	gy. m. ....	
14	D. 4290	3.58 p. m.	S. end Harvester Id., S. 38° W., 1.5 miles.	99	sft. gy. m. fne. bk. s.	.....do.....
		4.01 p. m.		99-99	sft. gy. m. fne. bk. s.	
<i>Selikof Strait.</i>						
15	D. 4291	9.01 a. m.	Cape Uyak, S. 51° W., 8.5 miles.	66	bu. m. s. g. ....	C. S. No. 8500
		9.04 a. m.		66-48	bu. m. s. g. ....	
15	H. 4784	9.25 a. m.	Cape Uyak, S. 54° W., 7.9 miles.	48	bu. m. s. g. ....	.....do.....
15	D. 4292	9.51 a. m.	Cape Uyak, S. 41° W., 7.2 miles.	102	bu. m. fne. s. ....	.....do.....
		9.56 a. m.		102-94	bu. m. fne. s. ....	
15	H. 4785	10.23 a. m.	Cape Uyak, S. 41° W., 6.2 miles.	94	bu. m. fne. s. ....	.....do.....
15	D. 4293	10.46 a. m.	Cape Uyak, S. 10° W., 5.8 miles.	112	bu. m. fne. s. ....	.....do.....
		10.51 a. m.		112-106	bu. m. fne. s. ....	
15	D. 4294	11.19 a. m.	Cape Uyak, S. 16° W., 4 miles.	106	bu. m. fne. s. ....	.....do.....
		11.27 a. m.		106-103-	bu. m. fne. s. ....	
15	H. 4786	11.44 a. m.	Cape Uyak, S. 12° W., 3 miles.	97	bu. m. fne. s. ....	.....do.....
		11.44 a. m.		97	bu. m. fne. s. ....	
15	D. 4295	1.03 p. m.	Cape Uyak, N. 82° E., 4.3 miles.	92	sft. gy. m. ....	.....do.....
		1.08 p. m.		92-92	sft. gy. m. ....	
<i>Monti Bay, Yakutat Bay.</i>						
18	D. 4296	9.50 a. m.	Ankau Head, S. 74° W., 1.3 miles.	35	dk. bu. m. sh. ....	C. S. No. 8455
		9.52 a. m.		35-37	dk. bu. m. sh. ....	
18	D. 4297	10.12 a. m.	Ankau Head, S. 50° W., 0.8 mile.	37	bu. m. ....	.....do.....
		10.22 a. m.		37-35	bu. m. ....	
18	D. 4298	10.43 a. m.	Ankau Head, S. 22° W., 0.7 mile.	35	bu. m. gy. s. ....	.....do.....
		10.52 a. m.		35-33-30	bu. m. gy. s. ....	
H. 4787	11.52 a. m.	Ankau Head, S. 1° W., 1.1 miles.	30	gy. s. ....	.....do.....	
<i>Off Shakan, Sumner Strait, S. E. Alaska.</i>						
24	D. 4299	9.58 a. m.	Point Amellus, N. 76° W., 5 miles.	153	s. r. ....	C. S. No. 8050
		10.10 a. m.		153-218	s. r. ....	
24	D. 4300	10.34 a. m.	Point Amellus, S. 77° W., 5.5 miles.	218	r. m. ....	.....do.....
		10.58 a. m.		218-185	r. m. ....	
24	D. 4301	11.29 a. m.	Point Amellus, S. 79° W., 4.5 miles.	171	gy. s. m. r. ....	.....do.....
		11.35 a. m.		171-171	gy. s. m. r. ....	
24	D. 4302	1.03 p. m.	Point Amellus, S. 80° W., 5.8 miles.	212	bu. m. ....	.....do.....
		1.23 p. m.		212-169	bu. m. ....	
H. 4738	1.52 p. m.	Point Amellus, S. 81° W., 6.2 miles.	169	gn. m. s. ....	.....do.....	

United States Fisheries Steamer Albatross, in 1903—Continued.

Temperatures.			Apparatus used.	Trial.		Drift.		Remarks.
Air.	Sur- face.	Bot- tom.		Depth.	Dura- tion.	Direction.	Dis- tance.	
					<i>Mins.</i>		<i>Miles.</i>	
{ 54	51	.....	Tnr. sdg. mch. ....	.....	.....	.....	.....	
{ 54	51	.....	9' Tanner.....	Bottom.	15	N. 65° E...	0.2	Frame bent; net wrecked; lost one trawl weight.
{ 54	51	.....	Tnr. sdg. mch. ....	.....	.....	.....	.....	
{ 56	51	.....	Tnr. sdg. mch. ....	.....	.....	.....	.....	Sound. while dredg.: 31, 41 fms.
{ 56	51	.....	8' Tanner.....	Bottom.	20	S. 65° E...	.3	Sound. while dredg.: 26 fms.
{ 56	51	.....	Tnr. sdg. mch. ....	.....	.....	.....	.....	Gear fouled on bottom, but no damage.
{ 56	51	.....	8' Tanner.....	Bottom.	2	S. 60° E...	.1	Sound. while dredg.: 40, 59 fms.
{ 56	51	.....	Tnr. sdg. mch. ....	.....	.....	.....	.....	
{ 56	51	.....	8' Tanner.....	Bottom.	21	East.....	.3	
{ 57	55	47.2	Tnr. sdg. mch. ....	.....	.....	.....	.....	
{ 57	55	47.2	8' Tanner.....	Bottom.	15	S. 76° E...	.4	Much mud in net; net torn slightly.
{ 57	55	.....	Tnr. sdg. mch. ....	.....	.....	.....	.....	
{ 63	58	.....	Tnr. sdg. mch. ....	.....	.....	.....	.....	
{ 63	58	.....	8' Tanner.....	Bottom.	20	N. 27° W...	.4	
{ 63	58	43.0	Tnr. sdg. mch. ....	.....	.....	.....	.....	Sound. while dredg.: 69 fms.
{ 63	58	43.0	8' Tanner.....	Bottom.	20	N. 31° W...	.4	
{ 63	58	42.2	Tnr. sdg. mch. ....	.....	.....	.....	.....	
{ 63	58	42.2	Tnr. sdg. mch. ....	.....	.....	.....	.....	Sound. while dredg.: 74 fms.
{ 63	58	42.2	8' Tanner.....	Bottom.	15	N. 35° W...	.2	
{ 63	58	.....	Tnr. sdg. mch. ....	.....	.....	.....	.....	
{ 63	58	.....	8' Tanner.....	Bottom.	15	North.....	.3	
{ 66	57	.....	Tnr. sdg. mch. ....	.....	.....	.....	.....	
{ 66	57	.....	8' Tanner.....	Bottom.	20	S. 19° W...	.6	
{ 66	57	.....	Tnr. sdg. mch. ....	.....	.....	.....	.....	
{ 66	57	39.8	Tnr. sdg. mch. ....	.....	.....	.....	.....	
{ 66	57	39.8	8' Tanner.....	Bottom.	25	S. 35° W...	.8	
{ 66	57	.....	Tnr. sdg. mch. ....	.....	.....	.....	.....	
{ 66	57	.....	Tnr. sdg. mch. ....	.....	.....	.....	.....	
{ 66	57	.....	8' Tanner.....	Bottom.	20	S. 1° W...	1.0	Sound. while dredg.: 103 fms.
{ 65	60	.....	Tnr. sdg. mch. ....	.....	.....	.....	.....	
{ 65	60	.....	8' Tanner.....	Bottom.	14	S. 25° W...	.6	
{ 65	60	.....	Tnr. sdg. mch. ....	.....	.....	.....	.....	
{ 63	56	.....	Tnr. sdg. mch. ....	.....	.....	.....	.....	
{ 63	56	.....	8' Tanner.....	Bottom.	20	S. 11° E...	1.2	Moderate current.
{ 57	57	.....	Tnr. sdg. mch. ....	.....	.....	.....	.....	
{ 57	57	.....	8' Tanner.....	Bottom.	17	N. 80° W...	.4	
{ 59	56	46.0	Tnr. sdg. mch. ....	.....	.....	.....	.....	Sound. while dredg.: 37 fms.
{ 59	56	46.0	8' Tanner.....	Bottom.	18	N. 64° W...	.3	
{ 59	56	.....	Tnr. sdg. mch. ....	.....	.....	.....	.....	Sound. while dredg.: 33 fms.
{ 59	56	.....	8' Tanner.....	Bottom.	23	N. 31° W...	.4	
{ 59	56	.....	Tnr. sdg. mch. ....	.....	.....	.....	.....	
{ 60	48	.....	Tnr. sdg. mch. ....	.....	.....	.....	.....	
{ 60	48	.....	8' Tanner.....	Bottom.	21	N. 12° E...	1.1	Sound. while dredg.: 185 fms.
{ 60	48	.....	Tnr. sdg. mch. ....	.....	.....	.....	.....	Gear fouled on bottom, but no damage done.
{ 60	48	.....	8' Tanner.....	Bottom.	5	N. 15° E...	.1	
{ 55	49	.....	Tnr. sdg. mch. ....	.....	.....	.....	.....	
{ 55	49	.....	8' Tanner.....	Bottom.	13	N. 27° E...	.4	
{ 54	50	44.2	Tnr. sdg. mch. ....	.....	.....	.....	.....	
{ 54	50	44.2	8' Tanner.....	Bottom.	21	S. 85° E...	.5	Net slightly torn.
{ 54	50	.....	Tnr. sdg. mch. ....	.....	.....	.....	.....	
{ 55	50	.....	8' Tanner.....	Bottom.	.....	.....	.....	

## EXPLANATIONS.

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.

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.

*List of abbreviations employed in these records.*

Abbreviation.	Meaning.	Abbreviation.	Meaning.	Abbreviation.	Meaning.
alg .....	algæ.	gy .....	gray.	rky .....	rocky.
bk .....	black.	h or hr ..	hour.	rot .....	rotten.
botm .....	bottom.	hrd .....	hard.	s .....	sand.
br .....	brown.	lav .....	lava.	sft .....	soft.
brk .....	broken.	lge .....	large.	sh .....	shells.
bu .....	blue.	lt .....	light.	slat .....	slate color.
c .....	clay.	m .....	mud.	sml .....	small.
choc .....	chocolate color.	mang .....	manganese.	sp .....	specks.
co .....	coral.	ml .....	miles.	st .....	stones.
corln .....	coralline.	min .....	mineral.	stbd .....	starboard.
crs .....	coarse.	mts .....	minutes.	stf .....	stiff.
dd .....	dead.	nod .....	nodules.	stk .....	sticky.
dk .....	dark.	oz .....	ooze.	vol .....	volcanic.
estd .....	estimated.	p .....	pebbles.	wh .....	white.
fms .....	fathoms.	part .....	particles.	yl .....	yellow.
fine .....	fine.	posn .....	position.	Sig. sdg. mach ..	Sigsbee sounding machine.
for .....	foraminifera.	pter .....	pteropods.	Surface tow ..	Surface tow net.
frag .....	fragments.	pum .....	pumice.	8' Tanner .....	8-foot Tanner beam trawl.
g .....	gravel.	r .....	rock.	9' Tanner, etc. .	9-foot Tanner beam trawl, etc.
glob .....	globigerina.	rad .....	radiolaria.	Thr. sdg. mach ..	Tanner sounding machine.
gn .....	green.	rd .....	red.		