3354

Drawing No. 8554-1

Department of Commerce and Labor
COAST AND GEODETIC SURVEY

Superintendent.

State: Alaska

DESCRIPTIVE REPORT.

Hyd *Sheet No.* 3354

LOCALITY:

Cook Inlet - Tuxedni Harbor to Chinitna Bay

1911

CHIEF OF PARTY:

C. G. Gillian

3354

Department of Commerce and Labor
COAST AND GEODETIC SURVEY

Str McArthur
1911

Cook Inlet
Iniskin Harbor & Christine Bay
Scale 1-40,000

Descriptive report & sketches
in separate envelope.
C G G

Verified by J. W. Torrey

PROJECT PH-6301
(PART-2)
SHORELINE MAPPING

Scale 1:20000

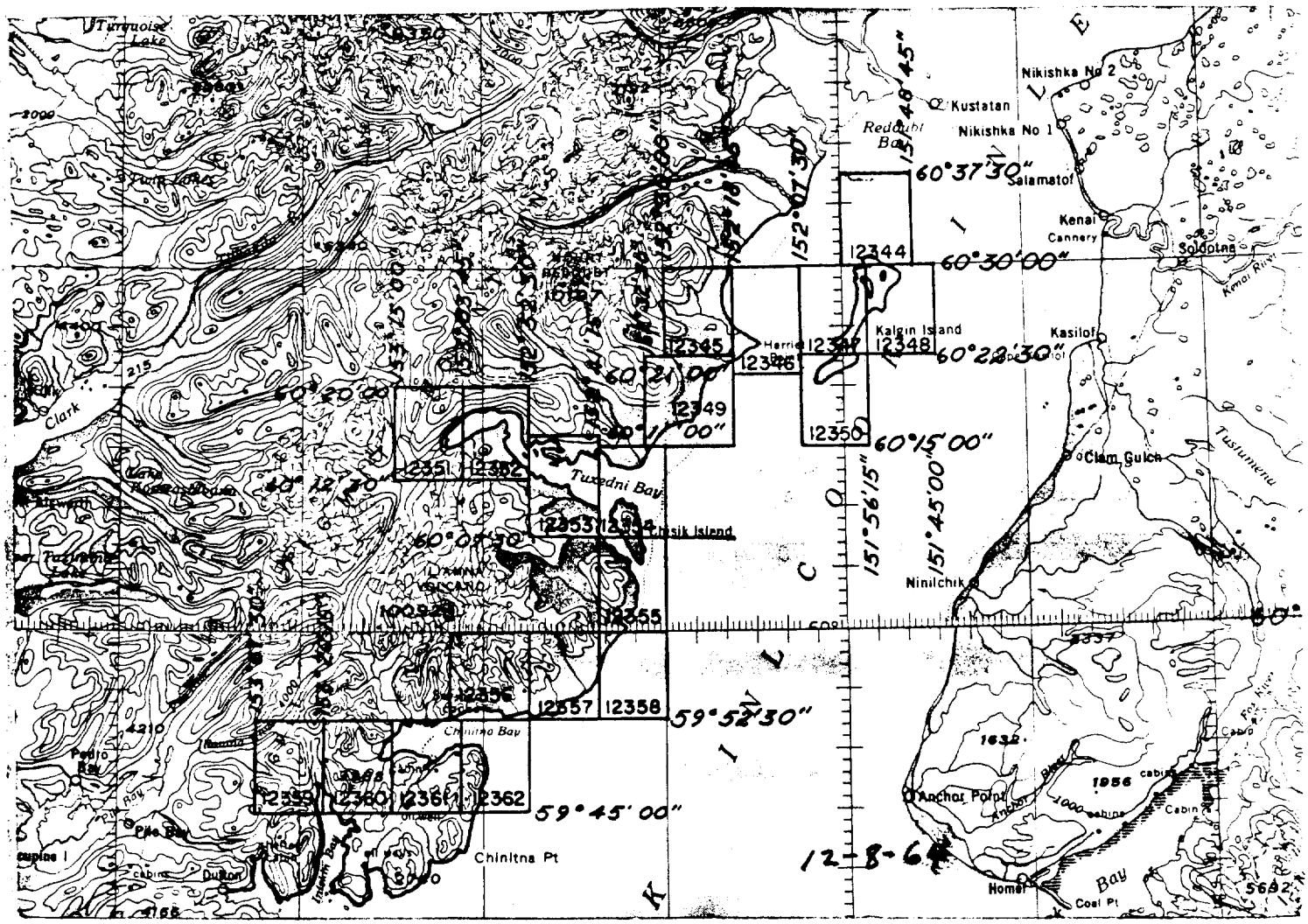
ALASKA

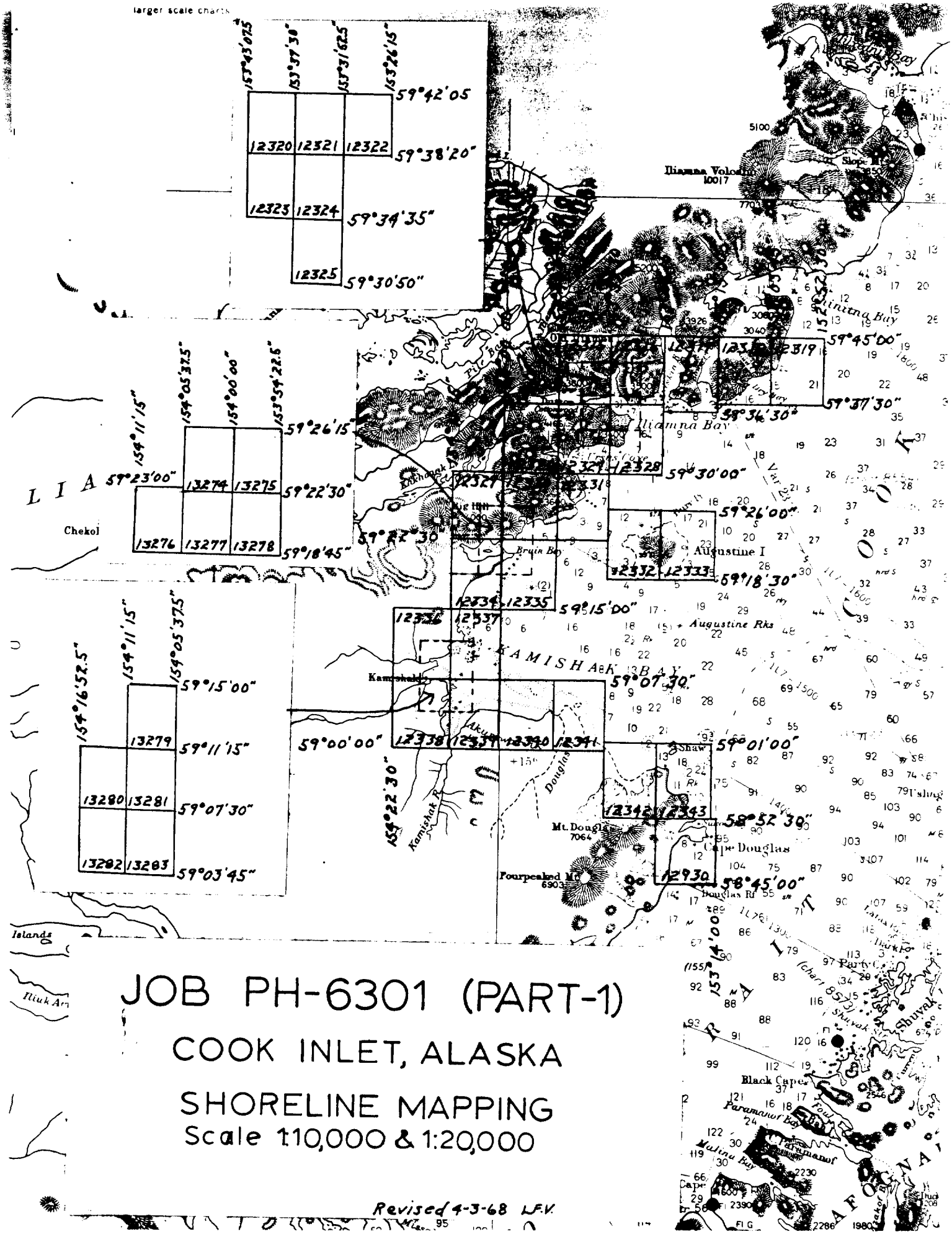
COOK INLET

OFFICIAL MILEAGE FOR COST ACCOUNTS

Sheet No.	Area Sq. Mile	Lin. Mile Shoreline	Sheet No.	Area Sq. Mile	Lin. Mil Shorelin
T-12344	2	4	T-12354	11	22
T-12345	3	6	T-12355	8	16
T-12346	3	6	T-12356	3	6
T-12347	8	16	T-12357	7	14
T-12348	4	8	T-12358	2	4
T-12349	5	10	T-12359	3	6
T-12350	4	9	T-12360	4	7
T-12351	4	9	T-12361	10	19
T-12352	10	21	T-12362	4	8
T-12353	11	22			

Totals - Area 106 sq. mile; Shoreline 213 sq. mile





JOB PH-6301 (PART-1)

COOK INLET, ALASKA

SHORELINE MAPPING

Scale 1:10,000 & 1:20,000

Revised 4-3-68 L.F.V.

8502
8554
8556

Summary

COOK INLET

Tuxedni Harbor to Chinitna Bay, Alaska.

Date	day	vol	no. miles	no soundings	no. angles	Boat
Aug 28	a	1	24.1	566	273	Launch Delta
Sept 14	b	1	25.1	474	214	" "
" 15	c	1&2	41.3	930	355	" "
" 16	d	2	39.3	830	270	" "
" 22	e	2	20.5	429	164	" "
" 23	f	2&3	24.9	552	193	" "
" 24	g	3	33.0	637	240	" "
" 26	h	3&4	44.8	1368	294	" "
" 27	j	4	39.9	1021	308	" "
" 28	k	4	27.4	620	233	" "
Total		4	320.3	7427	2544	Launch Delta.

Officer in Charge, W.S.Keyes, Mate, Obeservers, W.S.Keyes, Mate, D.M.Fisher, Aid, Recoreders, C.G.Braunlin, Asst.Surgeon, H.T.Martin, M.at A.

Coxswain, T.Agren, Sea, H.T.Martin, Master at Arms.,

Leadsmen, J.Collins, Sea, H.Hubner, Sea, T.Agren, Sea.

Engineer, Sam'l Lawson, A.to E. 1st class.

Tide Staffs at Tuxedni Harbor and Chinitna Bay,

Automatic gauge at Seldovia, Alaska.

Sub patty from Steamer McArthur, C.G.Quillian, Assistant, C.& G.Survey, Commanding.

Smooth sheet platted by C.G.Braunlin, Asst.Surgeon.

Descriptive Report of Hydrographic Sheet No 3354

COOK INLET

Tuxedni Harbor to Chinitna Bay

Assistant in Charge

Shore Line

The shoreline runs southwest from Tuxedni Harbor for about 10 miles and then curves gradually toward the west for about three miles after which it extends westward with a few small bights here and there for some ten miles forming the northern shore of Chinitna Bay. Chinitna Bay is nearly ten miles deep and entends nearly true west and has a width of about three miles. Southward of Chinitna Bay the coast trends southward for nearly 10 miles to Point Chinitna and thence westward toward Iniskine Bay.

For three miles southward from Tuxedni Harbor (to south of signal Net) a bluff,steep and rocky, with elevations of from 20 to 100 feet forms the shoreline and from the top of the bluff the hills slope back with about a 1 to 8 slope to the summits,the highest of which here is Slope Mountain, some 3800 feet high. Deep water extends close in to the shore off this bluff.

At signal Times a deep valey entends Northwestward for miles and several glacier drain into this valley. A stream has its outlet near Times. Small boats can enter at high tide,one of the dories from the vessel entered but no attempt was made to enter with the launch.Vessels or launches of small size and draft say 30 ft long and 3 ft draft might go in at high water and lay on bottom,but with a chance of being caught in quicksand and mud and having to wait for a good high water to get out. None of the streams on the west side of the Inlet south of the Harriet Point can be said to be navigable for more than a mile except by canoes and it is

doubtful if a canoe could proceed so far in most cases.

The water off Times is discolored for more than a mile (to the 10 fathom curve) by the stream mentioned above.

From signal Times to 1/4 mile of signal Max the shore is a low sand and gravel beach with heavy spruce undergrowth a few hundred yards from the beach. The flat country extends inland a couple of miles to the foot of the hills which rise with an even slope toward the water (about 1 to 6 and 1 to 8) and very steep on the north and south sides (1 to 3 and in places 1 to 2). The foot hills rise to heights of 3000 to 4000 feet, behind the foot hills are breaks and back some ten miles the high peak of Mt Iliamna 10,000 and the N. and S.Twins about 7,000 feet. A deep valley also lies back of signal Bear Flat with a conspicious red glacier at its head. (See the contours sketched on the 1-100,000 hydrographic sheet for the general configuration of the country)

Streams empty near signals More,Blue,Cove, and in the bight North of Max,(See Topo.sheet or Boat Sheet for definite location) and all of these streams may be entered by pulling boats but none are available for launches, and all can easily be forded at low tide.

An extensive flat lies off Bear Flat ,apparently an old glacial moraine or volcanic debris,and extends for over six miles offshore. See ship sheet also for soundings. There is better water at the terminal of the launch soundings than further off shore. There is reason to think that boulders are scattered over this flat and the ships soundings were very irregular. Care should be used in crossing the flat and no heavy draft vessels should do so until dragged.

Boulders lie about 1/2 mile south east from signal Bear Flat and two of them bare at the lowest tides. The McArthur struck in

H-3354 descriptive report

this vicinity in 1908.

A quarter of a mile east of signal Max a low grey gravel bluff about 30 to 50 ft high begins and forms the shoreline and extends with a few breaks to a mile west of signal Bluff, except that for a mile on either side of Bluff the bluff is composed of solid rock and is about 200 ft high, and at Rose or Tar is also a grey rock.

The beginning of the bluff at Max is a fair landmark as it is also wooded.

Off this part of the coast the bottom seemed regular and even when outside of the five fathom curve. When inside the shoaling was quick with here and there indications of boulders as off Max, off Miss, and off Tar. Off Tar several rocks which are covered at half tide lie 1/4 mile off shore; the launch Delta frequently passed inside of these rocks.

Chinitna Bay extends westward for ten miles from signal Tar or from the island in the entrance. The upper four miles bare at low water and the remainder is comparatively shoal gradually deepening to 7 fathoms at the entrance with the deeper water a little south of the center of the bay.

Shoreline at signal Bluff is a steep rocky cliff, 200 ft high; then after a mile of bluff a sand beach with the hills beginning a few yards from the water continues to signal Veal.

Signal Veal is on an outcroping rocky bluff, grey in color, and is about 30 ft high, wooded on top, conspicuous, and appears as an island from the entrance. It is a good mark. A lagoon extends northward from Veal and a valley with the foot of a glcier some three miles inland is at the head of the lagoon; the lagoon also runs several miles northwestward and turns in toward the glaciers

H-3354 descriptive report

lying on the west slope of Mt. Iliamna.

On the south shore is a prominent hill back of signal Raft which in range with Mt Eleanor is useful as an entering range.

Back of signal Walk a pass seemed to lead into Iniskine Bay.

Around signal Camp the land is low and flat for a mile inland and portions of it overrun at the big spring tides. Several streams drained here and the surveying party camped a few hundred yards south of Camp and the tide staff was on the flat off Camp.

After signal Dead is passed going out, the ground rises and and is very steep around the south entrance to the bay. An elevation of 2,000 feet being less than a mile inshore ,and this ridge continues with a few breaks parallel with the coast with the axis about a mile inshore. Mt Chinitna,3000,being the highest of the range.

Good water can be obtained near signal Nob and it is thoroughly aerated as the stream can be traced with the eye as it tumbles over rocks and cliffs from the very top of the hill, and finally over a smooth clean rock just above the water as though made for placing the water boat under it at half tide.

The islets on which signal MOON is located are rocky with steep bluffy sides about 20 ft high. Grass covers the larger portion of the island and there is a small mound where Moon is placed with a elevation of 100 ft, which is the highest point. The other islets are merely large rocks. A small beach is on the western side of the large islet.

Sunken rocks extend northward and northeast of the island for 3/8 mile (Bare at lowest tides)

and a shoal with least depth found of 11 feetlies 1/2 mile southeast of the island ~~with~~ and a boulder, ~~which~~ bares half way to the island.

Channels

The entrance used mostly by the McArthur was north of the island keeping about midway between the island and the gray rocky bluff at signal Rose, then rounding the island a little over a mile off until it was well clear of the mainland, then running for the point of land at signal Camp, and on into the inner anchorage. Anchorage can be made anywhere in the bay when sure of sufficient water at low tide. The bottom is uniformly of soft black mud and holds well. Keeping over toward the south side one gets the better water until on the flat off Dead. Anchorage in 4 fathoms or more L.W. is somewhat open from the N.E. to S.E. and some sea will probably make in in S.E.ly weather. There were no S.E. gales while we were working in this vicinity. Good anchorage for small vessels and which is also fairly well sheltered from N.E. and landlocked from all else can be had in two fathoms lowest tides of September in the inner anchorage, as I have called the small hole near and nearly west from signal Camp. This anchorage is near the camp site and was continually used by the McArthur, and had just swinging room with the 15 shackle on the windlass and was well sheltered from all save N.E., of which we had none. Local reports were that in heavy N.E. weather the sea breaks entirely across the entrance and no sea entered the bay.

The water is discolored at all times by Glacier water. having the usual whitish blue color

The channel south of the island was used only once and that before it had been sounded. It has a depth of 7 fathoms and leads to a small deep hole with 25 fathoms over mud bottom and the deepest spot in the bay. This deep spot is about one mile west of the island. In using the south channel one should keep well over to the south shore to avoid the 11 ft shoal and then favor the island to avoid the flat making out from the mainland.

Report said that the bay was full of ice in winter. At one time it was a rendezvous of the hunters of the sea-otter, at present is entirely uninhabited, and is rarely visited even by bear hunters. I did not see any one who had wintered there, and doubt if many have. However, the large quantities of glacier water make it quite likely that the larger portion of the bay freezes over.

Tides and Currents

Tides have a smaller range than on the eastern side of the Inlet, smaller than even Seldovia at the entrance to the Inlet. High and Low Water is from 20 to 30 minutes later than at Seldovia. Mean range at Seldovia 15.4; at Chinitna Bay 12.8 ft. and at the time of making the simultaneous observations the respective ranges were Seldovia 21 1/2 ft as comapred with 17 1/2 ft at Chinitna. Tides have a somewhat larger range at Tuxedni Harbor naturally but even there are smaller than at Seldovia and very much less than at Kasilof or Kenai on the eastern side of the Inlet.

Currents are strong as is to be expected in Cook Inlet with the large tidal range, but those of the western shore are not so strong as along the eastern side. The maximum current seemed to be about 8 to 12 miles off the eastern shore. Along the shore above Chinitna Bay the current run from 2 to 4 knots the average for about 3 to 5 hours of strongest ebb or flood being about 2 1/2 knots, though of course with fair winds or the big tide the current will run much stronger.

In Chinitna Bay the currents are weak as compared with any other part of the Inlet, rarely exceeding 1 3/4 knots and averaging less than a knot.

The current has a slight throw toward Chinitna Bay on the flood when southward of the bay and when off signal Times or further to the northward has a decided set toward the western shore, due partly to the inrun to Tuxedni Harbor and to Redoubt Bay. On the ebb the reverse holds but without so strong a set.

Rips

There are decided rips over the shoals off Bear Flat and the rips extend six or eight miles off shore. Currents are also stronger over the shoals. With any wind and sea these rips become dangerous to small vessels, and should be avoided.

When making passage from Tuxedni to Seldovia or Port Graham vessels may avoid the worst of the rips by holding over for Ninilchik until some 8 miles off shore then steering for Seldovia.

Weather

All of the work on this sheet was practically done in the month of September so weather notes apply mainly to that month.

During this month in 1911 there were no gales, and the weather averaged very well. Very little easterly weather with its usual accompanying rain. Prevailing winds were westerly with clear fine days. At times westerly winds were very strong with heavy williwaws from the mountains surrounding Chinitna Bay, but these were not so strong as in Tuxedni Harbor. Such winds blew right out of Chinitna Bay, and would raise some sea if of long duration. During September there was no fog although there had been a great deal during June and July.

There was frost nightly on the clear days in the later part of the month and snow on the hill tops but not below the 1000 ft level.

There was one particularly brilliant display of the aurora borealis, when the light streamed from each side of the heavens and met overhead.

On crossing to the eastern side on September 30 we saw snow at much lower altitudes than on the western side when we left, however during the summer the temperature had seemed several degrees lower on the western side.

Respectfully submitted,

C. G. Quillian

Assistant, C.&.G. Survey,

Chief of Party.

The sounding on this sheet was done by the launch Delta under the immediate charge of Mr. Keyes, Mate, The smooth sheet as submitted was platted by Dr. C.G. Braunlin, Asst. Surgeon.

3354

Addenda,
Descriptive Report ,Hyd. Sheet,Tuxedni Harbor to Chinitna Bay.

An examination of the sounding records shows that the officer in charge of the boat,viz,Mr.W.S.Keyes,Mate, while having a note to the effect that the lead line was correct has not complied with Par. 326 of the General Instructions for Field Work,which requires a definite statement of the relation of the mark on the lead line to the standard. As Chief of Party I had directed that such statement be included as a part of the record of each day; my attention was not drawn to this point until the sheet had been finished.

Alsot the officer in charge has failed to have his recorder enter the ~~work~~ statistics for a portion of a book in each book where there is part of the record for the day in two or more volumes. This was not noticed until the sheets had been forwarded to Washington and I have to request the draftsman in the office who plots the soundings to complete the backing of the number of miles for each book.

Draftsman will kindly watch record + backsheet carefully for notes of rock awaker or which bare.
The officer protracting this sheet has not had training for a surveyor and no previous experience in plotting.

MEMORANDUM OF CALL

TO: Walt

☒ YOU WERE CALLED BY— ☐ YOU WERE VISITED BY—

OF (Organization) Cdr Schaefer

☒ PLEASE CALL → PHONE NO. CODE/EXT. _____ ☐ FTS

☐ WILL CALL AGAIN ☐ IS WAITING TO SEE YOU

☐ RETURNED YOUR CALL ☐ WISHES AN APPOINTMENT

MESSAGE

Problem smooth sheet - ledge from T's sheet

T-12362 2 sessions one ledge - one not

cook Dulet

12319 does show ledge.

RECEIVED BY | DATE 3-15 | TIME 10:26

63-109

☆ U.S. G.P.O. 1980-311-156/18

STANDARD FORM 63 (Rev. 8-76)
Prescribed by GSA
FPMR (41 CFR) 101-11.6

T-12319

Return to C. Smatteck

PMC does not have Date of field edit on their copy (date in period on tape is 7/1973).

VEC
Apr.13,1912.

HYDROGRAPHIC SHEET 3354.

Cook Inlet, Tuxedni Harbor to Chinitna Bay,

Alaska, by Asst. C. G. Quillian in 1911.

TIDES.

	Tuxedni Har. ft.	Chinitna Bay ft.
Mean lower low water or plane of reference on staff	5.1	5.1
Lowest tide observed " "	0.9	2.1
Highest " " " "	25.4	22.8
Mean range of tide	14.0	12.8