6860 original

Form 504
Rev. April 1935

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

Topographic / *Hydrographic* } *Sheet No.* A-41

U. S. COAST & GEODETIC SURVEY
LIBRARY AND ARCHIVES
JAN 28 1942
Acc. No.

State S.W. Alaska

LOCALITY

Cold Bay, East Side,

Vicinity of Kelp & Kaslokan

Points

*19*41

CHIEF OF PARTY

L. D. Graham

U. S. GOVERNMENT PRINTING OFFICE 102221

6860

Form 537a
11-5813

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO.

TOPOGRAPHIC TITLE SHEET

The Topographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

Field No. A-41

REGISTER NO. T6860

State S. W. Alaska

General locality East Side of Cold Bay

Locality Vicinity of Kelp and Kaslokan Points

Scale 1:5,000 Date of survey May 26- June 12, 19~~3~~ 41

Vessel DISCOVERER

Chief of Party L. D. Graham

Surveyed by J. T. Jarman

Inked by J. T. Jarman

Heights in feet above M. H. W. to ground ~~Xxxxxxxxxxxxxxx~~

Contour, Approximate contour, Form line interval ____ feet

Instructions dated March 18, 1938 & April 26, 19~~3~~ 41

Remarks:

GPO

DESCRIPTIVE REPORT

To Accompany

Topographic Sheet No. A-41

Project H. T. 219

East Shore of Cold Bay

S. W. Alaska

INSTRUCTIONS

Instructions H.T. 219 dated March 18, 1939, and Supplemental Instructions dated April 26, 1941 cover this survey. Work was begun on May 26, 1941, and the sheet was completed on June 12, 1941.

LIMITS

This survey extends from Lat. 55° 05.3', Long. 162° 30.6' to Lat. 55° 07.3', Long. 162° 29.3'. The above limits are an extension of those called for in the Instructions. Since it was necessary to locate signals in the area for a 1:5000 scale hydrographic sheet, field No. 5A41, H-6704 (1941) not much additional time or expense was involved in the extension.

JUNCTIONS

This sheet has no contemporary junctions. It is a resurvey of a part of Topographic Survey No. T4080 (1924) on a larger scale.

CONTROL

Stations GES 1923 and LAW 1923 are main scheme stations of third order accuracy established by R. R. Lukens, and recovered during the current season. Triangulation station ZIP 1941 was established and located during the current season with third order accuracy by this party.

METHODS

Standard Coast Survey methods were used throughout this survey except that most of the low water line (M.L.L.W. line) was located by sextant fixes. The low water line along with offlying rocks awash between signals "Pin" and "Bow" was located by rod readings with the tide at approximately the plane of M.L.L.W. The reef north west of signal "Ban" was located by rod readings with the tide approximately one foot above the plane of M.L.L.W. Later, additional information was secured on the location of the above reef by sextant fixes at a zero tide. The remaining low water line was located by sextant fixes at or near zero tides.

All rocks other than those mentioned above were located by sextant fixes. Notes on the sheet referring to rocks awash are referenced to the plane of M.L.L.W. Depths over sunken rocks at M.L.L.W. are shown alongside the conventional symbol ~~with the notation, "Rk"~~. Actual tides, as obtained from the LENARD HARBOR tide gage were used to reference rocks to the plane of M.L.L.W. The length of the entire shore line was observed for sunken rocks during a

tide which was 2 feet below the plane of M.L.L.W.

No traverse was necessary between signals "Na" and "Val", it being possible to secure three cuts on each signal within this area. Points "F" and "G" are setups on the bluff top located by intersection, and occupied to obtain cuts and rod readings to signals in the vicinity.

There are two traverses on the sheet. Traverse No. 1 extends from triangulation station LAW 1941 in a southerly direction to triangulation station ZIP 1941. This traverse had a closing error of less than $\frac{1}{2}$ meter, and no adjustment was necessary. Point "H" is a setup on the bluff top located by three cuts and a resection. It was occupied to obtain cuts and rod readings to signals in the vicinity which served as checks on traverse No. 1. Traverse No. 2 extends from triangulation station GES 1923 to topographic station "Wash", and thence to the vicinity of triangulation station Hos 1923 which was not recovered. (See paragraph headed "Discrepancies" for further discussion of HOS 1923) Traverse No. 2 closed on signal "Lag" with an error of one meter which was adjusted in the field. This signal was located independently on boat sheet, field No. 2141 H-6702 (1941) (Whatman paper) with plane table and alidade, cuts being obtained from triangulation stations BOL 1923, BARE 1923, and WILD 1923. A further check on signal "Lag's" location was obtained by a rod reading from setup "C", which was located by a cut from GES 1923, and a resection on flag "B". Points "A" and "B" are flags on the hill side which

were located by cuts, and used for resection purposes. Points "D" and "E" are flags on the bluff top located similarly to setup "C", and occupied to obtain cuts and rod readings to signals in the vicinity as checks on traverse No. 2. The majority of the signals located by traverse on this sheet have two cuts to them from well located points, and a few have three cuts.

Aerial photography in the vicinity of Cold Bay was in progress during the course of this survey. Therefore, points along the shore at which rod readings were obtained have been indicated on the sheet with black dots in accordance with instructions contained in Field Memorandum No. 1, 1935.

DISCREPANCIES

Station HOS 1923 was an unmarked station, consisting of a 2" x 4" wedged in a crevice of a large flat topped boulder. The chances of locating this boulder by topography were considered good. However, no flat topped boulder which satisfied the description could be found in the vicinity, although there were several overturned boulders in the vicinity which may have been the station. The plotted position of HOS 1923 falls 7½ meters inshore from the traverse location of signal "End". Signal "End" is on the high water line, and from the original description of HOS 1923, its location should be at or near the high water line. If the plotted position of HOS 1923 is correct, the station would be located at about 25 feet elevation on the bluff slope. A convenient, flat, outcropping boulder is on

the bluff side at about the plotted position of HOS 1923, but its location does not satisfy the description of the station. A three point fix was obtained at signal "End" on triangulation stations TAL 1923, BOL 1923, and WILD 1923, using a sextant reading to 30". Each angle was measured several times, the mean value being used inthe fix. The resulting G. P. as obtained from solving the three point problem checks the topographic location of signal "End" within ½ meter.

END (Topographic location)

Lat. 55° 07′ + 598.4 meters

Long. 162° 29′ + 278.4 meters

END (Three point fix)

Lat. 55° 07′ + 598.88 meters

Long. 162° 29′ + 278.1 meters

The above computations are appended to this report. It is known that HOS 1923 was an intersection station, but the information at hand does not desiginate it a "no check" station. The photostat copy of the 1923 progress sketch as furnished this vessel shows HOS 1923 as being observed from BOL 1923 and GES 1923. The latter is impossible, since HOS 1923 would have to be at an elevation of better than 100' in order to see GES 1923. It is believed that HOS 1923 was a "no check" station with directions to it from BOL 1923 and WILD 1923. From the evidence at hand, it appears that

HOS was observed from BOL, SALT and WILD. Common sides of triangles check satisfactorily.

HOS 1923 was in error, and the inference is, that the shoreline on T4080 in the immediate vicinity is in error by a like amount, since the locating traverse was probably tied into the station. (See paragraph headed " Comparison with previous surveys") HOS-1923 correct. Shoreline differences are no more pronounced in this vicinity than in rest of common area.

CHARACTER OF THE TERRAIN

All of the beach shown on this sheet is rocky and boulder strewn with the exception of the section between signals "Gab" and "Val". The latter is sand which is mixed with gravel and small stones. Between signals "Ban" and "Val", the above beach is suitable for beaching small power boats for emergency repairs. The low sand spit on which signal "Cob" is located is composed of sand and gravel which overlays a rocky ledge. Progress by walking along rocky sections of the beach is difficult and slow.

Inshore from the high water line along the entire length of the sheet, there is a grass covered sloping bluff of varying height. Between signals "Lag" and "End", this bluff has a height greater than 100' with the slope of the bluff face being approximately 45°. West of signal "Lag" and extending to signal "Na", the bluff slope is approximately 60° to 70°. South of signal "Na", the bluff slope varies from 65° to 80°. Approximate heights of the bluff have been indicated on the sheet by notes. With a sloping bluff face, the top of the bluff is considerably inshore from its base. Setups "C", "D", "F", "G", "H" and station GES 1923 are points located on top of the bluff, and

indicate its upper edge. In general, the bluff symbol as shown on the sheet extends inshore to the bluff top projected on a plane surface. (See snapshots of the bluff included with the report.)

GEOGRAPHIC NAMES

All Geographic names shown on the sheet are common to U.S.C. & G. chart 8703 and Topographic Survey T4080 (1924)

COMPARISON WITH PREVIOUS SURVEYS

This sheet is a resurvey of a part of Topographic Survey T4080 (1924) on a 1:5000 scale. An accurate comparison of this survey with T4080 is difficult in the field due to distortion factors and a difference of scales. Topographic Survey T4080 is a 1:20000 scale.

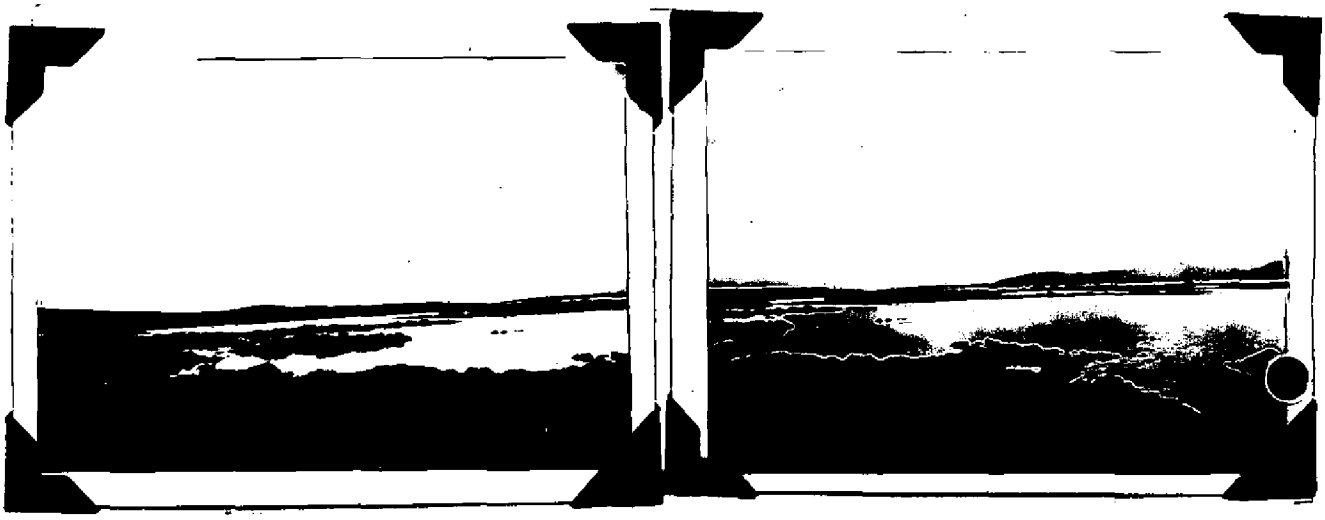
The shoreline, based on a rough comparison with T4080 (photostat copy) agrees favorably in general, but several discrepancies were noted. At signals "Lag" and "End," the shoreline on the current survey is 7½ meters offshore from that shown on T4080. It is believed that the shoreline on T4080 is in error due to an erroneous location of station HOS 1923. (See discussion headed "Discrepancies") Extending westward from signal "Ray" to signal "Pad", there is a fair agreement (differences up to 20 m.). Between signals "Pad" and "Na", the shoreline on the current survey is as much as ~~20~~ 7 meters offshore at several points from that shown on T4080. There is no evidence of a building up process, and the present survey is correct. From signal "Na" to signal "Ban" there is fair agreement other than differences up to 40 meters in the interpretation

35 meters inshore between Lag and End.

Bluff near the south end of the sheet. Note station ZIP 1941 on the skyline.

Bluff looking north from the vicinity of signal "Out". Signals "Pin" and "War" are visable, and setup "F" shows on the skyline.

Bluff east of GES 1941 which shows on the skyline.



Reef looking south from the vicinity of signal "Tusk". Signals "Ban" and "Pop" are visable on the skyline. ("Pop" is the larger and more distant signal.)

of the M.H.W. line. The point near signal "Pop" appears to have extended it self out into Cold Bay approximately 25 meters, and the shoreline in the vicinity of signal "Cow" appears to have receded slightly (20 meters). The shoreline forming the above point is subject to current action, and the changes are probable. Near signal "Ty" where the meridian 162° 31' crosses the shoreline, the present determination is approximately ~~15~~ 35 meters inshore from that shown on T4080. There is no indication of erosive action in the vicinity, and the shoreline of the current survey should be accepted. In the vicinity of signal "Cob", the shoreline of the present survey is approximately 25 meters offshore from that shown on T4080. This area, which is a low, grassy, sand spit is believed to be building up. All other areas appear to be in fair agreement.

The low water line shown on T4080 was probably sketched. No reefs are shown which is probably due to interpretation. The low water line as shown on the present survey is correct and should be accepted.

Form lines were not called for on the present survey. In general, those shown on T4080 appear to indicate the general trend of the terrain. Rev., par. 1.

MAGNETIC MERIDIANS

Magnetic meridians were secured with declinatoire No. 199 at triangulation stations GES 1923, LAW 1923, and ZIP 1941. The values shown on the sheet are scaled values uncorrected for diurnal variation. Declinatoire No. 199 was tested at Seward Park magnetic station, Seattle, Wash. on April 9, 1941. The results were forwarded to the Washington

Office. (The above declinatoire is a new one which has been assigned to alidade No. 199, and should not be confused with the declinatoire which was tested at Seward Park magnetic station on March 11, 1941, and returned to the Washington Office due to sluggishness. The latter was used with alidade No. 199 prior to March 11, 1941.)

LIST OF PLANE TABLE POSITIONS

LAG	Lat.	55°	07′	+ 598.4meters	Boulder marked with hydrographic disc. Topo sheet A-41 T-6860 (1941)
	Long.	162°	29′	+ 278.4 meters	
GAB	Lat.	55°	06′	+ 1074.2 meters	Gable, west, tin trappers shack Topo sheet A-41
	Long.	162°	31′	+ 172.0 meters	
REF	Lat.	55°	05′	+ 498.5 meters	Boulder marked with ½" brass rod Topo sheet A-41
	Long.	162°	30′	+ 614.0 meters	

A list of all topographic signals located on the sheet with scaled DM's and DP's is appended to this report.

REMARKS

No land marks for charts appear on the sheet.

Topographic signals south of ZIP 1941, and

between the latter and station Steep 1941 were located on the reverse side of topographic sheet A-41 T-6860 (1941) by plane table traverse. The traverse closed within allowable limits and was adjusted in the field. The above signals were necessary for the inshore developement at the lower end of hydrographic sheet, field No. 5A41 H-6704 (1941). Station Steep 1941 was located by theodolite by observing a three point fix, and computing the three point problem. Station Steep 1941 was not marked by this party.

Respectfully Submitted,

J. T. Jarman

J. T. Jarman,
Jr. H. & G. E.

Approved and Forwarded,

L. D. Graham

L. D. Graham,
Commanding Ship DISCOVERER.

THREE POINT FIX OBSERVED WITH A SEXTANT READING TO 30" ON WILD 1923, BOL 1923, and TAL 1923.

Angle: WILD 1923 to BOL 1923		
51°	19'	45"
51°	19'	45"
51°	19'	30"
51°	19'	30"
51°	20'	00"
51°	20'	00"
51°	19'	30"
51°	19'	45"
8 (	157'	45"
51°	19'	43"

Angle: BOL 1923 to TAL 1923		
21°	38'	00"
21°	38'	30"
21°	39'	00"
21°	38'	30"
21°	38'	00"
21°	38'	00"
21°	38'	00"
7 (	268'	00"
21°	38'	17"

Check sum angle
WILD 1923 to TAL 1923

72°	57'	30"
72°	58'	30'
72°	58'	30"
72°	57'	30"
72°	57'	30"
72°	58'	30"
72°	58'	00"
72°	58'	00"
72°	58'	00"
9 (	522'	00"
72°	58'	00"

Accepted fix:

WILD 1923 51° 19' 43"

BOL 1923

TAL 1923 21° 38' 17"

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 662
Rev. April, 1931

INVERSE POSITION COMPUTATION

$$s_1 \sin\left(\alpha+\frac{\Delta\alpha}{2}\right)=\frac{\Delta\lambda_1 \cos\phi_m}{A_m}$$

$$s_1 \cos\left(\alpha+\frac{\Delta\alpha}{2}\right)=\frac{-\Delta\phi_1 \cos\frac{\Delta\lambda}{2}}{B_m}$$

$$-\Delta\alpha=\Delta\lambda \sin\phi_m \sec\frac{\Delta\phi}{2}+F(\Delta\lambda)^3$$

in which $\log \Delta\lambda_1 = \log(\lambda'-\lambda)$ − correction for arc to sin*; $\log \Delta\phi_1 = \log(\phi'-\phi)$ − correction for arc to sin*; and $\log s = \log s_1$ + correction for arc to sin*.

NAME OF STATION

1. ϕ	55°	11′	13.68″	Tal	λ	162°	29′	53.70″
2. ϕ'	55	09	27.10	Bol	λ'	162	28	10.30
$\Delta\phi\ (=\phi'-\phi)$	−	01	46.58		$\Delta\lambda\ (=\lambda'-\lambda)$	−	01	43.40
$\frac{\Delta\phi}{2}$		− 53.29			$\frac{\Delta\lambda}{2}$		− 51.70	
$\phi_m\left(=\phi+\frac{\Delta\phi}{2}\right)$	55	10	20.39					
$\Delta\phi$ (secs.)		− 106.58″			$\Delta\lambda$ (secs.)		− 103.40″	

$\log \Delta\phi$	2.0276757 n			$\log \Delta\lambda$	2.0145205 n		
cor. arc−sin	−			cor. arc−sin	−		
$\log \Delta\phi_1$	2.0276757 n			$\log \Delta\lambda_1$	2.0145205 n		
$\log\cos\frac{\Delta\lambda}{2}$	10.0000000			$\log\cos\phi_m$	9.756720		
colog B_m	1.4903019			colog A_m	1.4912661		
$\log\left\{s_1\cos\left(\alpha+\frac{\Delta\alpha}{2}\right)\right\}$	3.5179776 n	(opposite in sign to $\Delta\phi$)		$\log\left\{s_1\sin\left(\alpha+\frac{\Delta\alpha}{2}\right)\right\}$	3.2625066 n		
				$\log\left\{s_1\cos\left(\alpha+\frac{\Delta\alpha}{2}\right)\right\}$	3.5179776 +		
$\log \Delta\lambda$	2.0145205 n	3 log $\Delta\lambda$		$\log\tan\left(\alpha+\frac{\Delta\alpha}{2}\right)$	9.7445290		
$\log \sin\phi_m$	9.9142763	log F		$\alpha+\frac{\Delta\alpha}{2}$	330°	57′	23.4″
$\log\sec\frac{\Delta\phi}{2}$		log b		$\log\sin\left(\alpha+\frac{\Delta\alpha}{2}\right)$	9.6861656		
$\log a$	1.9287968 n			$\log\cos\left(\alpha+\frac{\Delta\alpha}{2}\right)$	9.9416363		
a	84.878 n			$\log s_1$	3.5763412		
b				cor. arc−sin	+		
$-\Delta\alpha$ (secs.)	− 84.9″			$\log s$	3.5763412		
$-\frac{\Delta\alpha}{2}$	− 42.4″						
$\alpha+\frac{\Delta\alpha}{2}$	330°	57′	23.4″				
α (1 to 2)	330	56	41.0				
$\Delta\alpha$	+ 01	24.9					
	180						
α' (2 to 1)	150	58	05.9				

* Use the table on the back of this form for correction of arc to sin.

NOTE.—For log s up to 4.52 and for $\Delta\phi$ or $\Delta\lambda$ (or both) up to 10′, omit all terms below the heavy line except those printed (in whole or in part) in heavy type or those underscored, if using logarithms to 6 decimal places. 11—9810

U. S. GOVERNMENT PRINTING OFFICE: 1931

Comp. J.T.J.
✓ C.P.

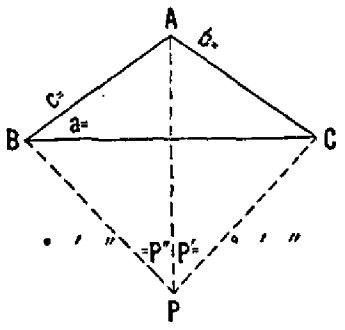
Table of arc-sin corrections for inverse position computations

log s_1	Arc-sin correction in units of seventh decimal of logarithms	log $\Delta\phi$ or log $\Delta\lambda$	log s_1	Arc-sin correction in units of seventh decimal of logarithms	log $\Delta\phi$ or log $\Delta\lambda$	log s_1	Arc-sin correction in units of seventh decimal of logarithms	log $\Delta\phi$ or log $\Delta\lambda$
4. 177	1	2. 686	5. 223	124	3. 732	5. 525	497	4. 034
4. 327	2	2. 836	5. 234	130	3. 743	5. 530	508	4. 039
4. 415	3	2. 924	5. 243	136	3. 752	5. 534	519	4. 043
4. 478	4	2. 987	5. 253	142	3. 762	5. 539	530	4. 048
4. 526	5	3. 035	5. 260	147	3. 769	5. 543	541	4. 052
4. 566	6	3. 075	5. 269	153	3. 778	5. 548	553	4. 057
4. 599	7	3. 108	5. 279	160	3. 788	5. 553	565	4. 062
4. 628	8	3. 137	5. 287	166	3. 796	5. 557	577	4. 066
4. 654	9	3. 163	5. 294	172	3. 803	5. 561	588	4. 070
4. 677	10	3. 186	5. 303	179	3. 812	5. 566	600	4. 075
4. 697	11	3. 206	5. 311	186	3. 820	5. 570	613	4. 079
4. 716	12	3. 225	5. 318	192	3. 827	5. 575	625	4. 084
4. 734	13	3. 243	5. 326	199	3. 835	5. 579	637	4. 088
4. 750	14	3. 259	5. 334	206	3. 843	5. 583	650	4. 092
4. 765	15	3. 274	5. 341	213	3. 850	5. 587	663	4. 096
4. 779	16	3. 288	5. 349	221	3. 858	5. 591	674	4. 100
4. 792	17	3. 301	5. 356	228	3. 865	5. 595	687	4. 104
4. 804	18	3. 313	5. 363	236	3. 872	5. 600	702	4. 109
4. 827	20	3. 336	5. 369	243	3. 878	5. 604	716	4. 113
4. 857	23	3. 366	5. 376	251	3. 885	5. 608	729	4. 117
4. 876	25	3. 385	5. 383	259	3. 892	5. 612	743	4. 121
4. 892	27	3. 401	5. 390	267	3. 899	5. 616	757	4. 125
4. 915	30	3. 424	5. 396	275	3. 905	5. 620	771	4. 129
4. 936	33	3. 445	5. 403	284	3. 912	5. 624	785	4. 133
4. 955	36	3. 464	5. 409	292	3. 918	5. 628	800	4. 137
4. 972	39	3. 481	5. 415	300	3. 924	5. 632	814	4. 141
4. 988	42	3. 497	5. 422	309	3. 931	5. 636	829	4. 145
5. 003	45	3. 512	5. 428	318	3. 937	5. 640	845	4. 149
5. 017	48	3. 526	5. 434	327	3. 943	5. 644	861	4. 153
5. 035	52	3. 544	5. 440	336	3. 949	5. 648	877	4. 157
5. 051	56	3. 560	5. 446	345	3. 955	5. 652	893	4. 161
5. 062	59	3. 571	5. 451	354	3. 960	5. 656	909	4. 165
5. 076	63	3. 585	5. 457	364	3. 966	5. 660	925	4. 169
5. 090	67	3. 599	5. 462	373	3. 971	5. 663	941	4. 172
5. 102	71	3. 611	5. 468	383	3. 977	5. 667	957	4. 176
5. 114	75	3. 623	5. 473	392	3. 982	5. 671	973	4. 180
5. 128	80	3. 637	5. 479	402	3. 988	5. 674	989	4. 183
5. 139	84	3. 648	5. 484	412	3. 993	5. 678	1005	4. 187
5. 151	89	3. 660	5. 489	422	3. 998			
5. 163	94	3. 672	5. 495	433	4. 004			
5. 172	98	3. 681	5. 500	443	4. 009			
5. 183	103	3. 692	5. 505	453	4. 014			
5. 193	108	3. 702	5. 510	464	4. 019			
5. 205	114	3. 714	5. 515	474	4. 024			
5. 214	119	3. 723	5. 520	486	4. 029			

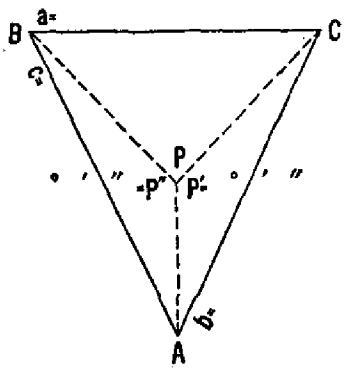
DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 655
Ed. Sept., 1929

COMPUTATION OF THREE-POINT PROBLEM

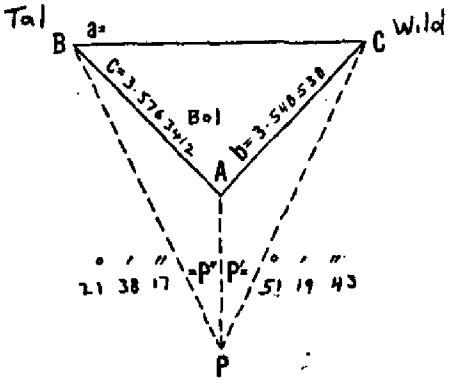
Case 1



Case 2



Case 3



Cases 1 and 2

P′			
P″			
A			
Sum			
½ Sum			
S = 180° − ½ sum =			

Case 3

P′	51°	19′	43″
P″	21°	38′	17″
Sum	72°	58′	00″
A	162°	03′	49.2″
A − sum	89°	05′	49.2″
S = ½ (A − sum) =	44°	32′	54.6″

Log c =	3.5763412
Log sin P′ =	9.8925078
Colog b =	6.4514620
Colog sin P″ =	0.4332774
Sum = log tan Z =	0.3535884

Z =	66°	06′	22.6″
Z + 45° =	111°	06′	22.6″

Log cot (Z + 45°) =	9.5865803
Log tan S =	9.9931551
Sum = log tan ϵ =	9.5797354 (sign −)

ϵ	20°	48′	16.8″
S	44°	32′	54.6″

(Tan ϵ +)			
S + ϵ = angle ABP	23°	44′	37.8″
S − ϵ = angle ACP	65°	21′	11.4″

(Tan ϵ −)
S − ϵ = angle ABP
S + ϵ = angle ACP

BPA	21°	38′	17″	APC	51°	19′	43″	PCB			
ABP	23°	44′	37.8″	PCA	65°	21′	11.4″	CBP			
PAB	134°	37′	05.2″	CAP	63°	19′	05.6″	BPC			
	180°	00′	00.0″		180°	00′	00.0″				

(For explanation of this form see Special Publication No. 138, pages 191 and 192, or Special Publication No. 145, pages 98–100)

U. S. GOVERNMENT PRINTING OFFICE: 1929
11—9912

Comp. J.T.J.
C.P.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 25
Ed. Jan., 1929

11—0121

COMPUTATION OF TRIANGLES

State: S. W. Alaska

NO.	STATION	OBSERVED ANGLE	CORR'N	SPHER'L ANGLE	SPHER'L EXCESS	PLANE ANGLE AND DISTANCE	LOGARITHM
	2-3						3.576341
	1 P" (End)	21° 38' 17"					0.433277
	2 Tal	23° 44' 37.8"					9.604926
	3 Bol	134° 37' 05.2"					9.852360
	1-3	-					3.614544
	1-2						3.861978
	2-3						3.548538
	1 P' (End)	51° 19' 43"					0.107492
	2 Bol	63° 19' 05.6"					9.951101
	3 Wild	65° 21° 11.4"					9.958514
	1-3	- -					3.607131
	1-2						3.614544
	2-3						
	1						
	2						
	3						
	1-3						
	1-2						
	2-3						
	1						
	2						
	3						
	1-3						
	1-2						

Do not write in this margin

Comp. J.T.J.
✓ C.P.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 27
Ed. April, 1929

POSITION COMPUTATION, THIRD-ORDER TRIANGULATION

						°	′	″							°	′	″
α	2	Bol	to 3	Wild		313	01	55.1	α	3	Wild	to 2	Bol		133	03	54.8
2d ∠			&			+ 63	19	05.6	3d ∠			&			−65	21	11.4
α	2	Bol	to 1	End		16	21	00.7	α	3	Wild	to 1	End		67	42	43.4
$\Delta\alpha$									$\Delta\alpha$								
						180	00	00.0							180	00	00.0
α'	1		to 2						α'	1		to 3					

First Angle of Triangle

	°	′	″			°	′	″		°	′	″			°	′	″
ϕ	55	09	27.10	2 Bol	λ	162	28	10.30	ϕ	55	08	09.05	3 Wild	λ	162	25	44.40
$\Delta\phi$	−	02	07.74		$\Delta\lambda$	+	01	05.39	$\Delta\phi$	−	00	49.68		$\Delta\lambda$	+	03	31.29
ϕ'	55	07	19.36	1 End	λ'	162	29	15.69	ϕ'	55	07	19.37	1 End	λ'	162	29	15.69

	Logarithms	Values in seconds
s	3.614544	(19.365″)
		598.88 m
Cos α	9.982072 +	
B	8.509699	
h	2.106315	1st term ″ 127.736
s^2	7.279088	
$\sin^2\alpha$	8.898980	
C	1.56029	
	7.738358	2d term + 0.005
h^2	4.212630	
D	2.3653	
	6.577930	3d term + —
		$-\Delta\phi$ 127.741

° ′ ″

$\frac{1}{2}(\phi+\phi')$

	Logarithms	Values in seconds
s	3.614544	(15.69″)
		278.1 m
Sin α	9.449490 +	
A′	8.508735	
Sec ϕ'	0.242733	
$\Delta\lambda$	1.815502	″ 65.389
$\sin\frac{1}{2}(\phi+\phi')$		
$-\Delta\alpha$		

	Logarithms	Values in seconds
s	3.607131	
Cos α	9.578939 +	
B	8.509701	
h	1.695771	1st term ″ 49.633
s^2	7.214262	
$\sin^2\alpha$	9.932556	
C	1.55995	
	8.706768	2d term + 0.051
h^2	3.391534	
D	2.3654	
	6.756934	3d term + —
		$-\Delta\phi$ 49.684

° ′ ″

$\frac{1}{2}(\phi+\phi')$

	Logarithms	Values in seconds
s	3.607131	
Sin α	9.966278 +	
A′	8.508735	
Sec ϕ'	0.242733	
$\Delta\lambda$	2.324877	″ 211.289
$\sin\frac{1}{2}(\phi+\phi')$		
$-\Delta\alpha$		

11—9382 U. S. GOVERNMENT PRINTING OFFICE, 1929

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 27
Ed. April, 1929

POSITION COMPUTATION, THIRD-ORDER TRIANGULATION

			°	′	″
α	2 PLAT to 3 BLUFF		168	21	40.5
2d ∠	&		+ 62	16	31.2
α	2 PLAT to 1 STEEP		230	38	11.7
Δα			+	04	06.5
			180	00	00.0
α′	1 STEEP to 2 PLAT		50	42	18.2
		First Angle of Triangle	52	37	26.4
			10″3	-19	11.6

	°	′	″			°	′	″
φ	55	02	08.40	2 PLAT	λ	162	35	02.21
Δφ	+	02	21.46		Δλ	−	05	00.74
φ′	55	04	29.86	1 STEEP	λ′	162	30	01.47

	Logarithms	Values in seconds
s	3.838 981	923.4 (932.1) (04.3)
Cos α	9.802 251	
B	8.509 708	
h	2.150 940	1st term − 141.560
s²	7.677 96	
Sin²α	9.776 51	
C	1.558 33	
	9.012 80	2d term + .103
h²	4.301 89	
D	2.3659	
	6.667 79	3d term +
		−Δφ −141.457

	°	′	″	Logarithms	Values in seconds
½(φ+φ′)	55	03	19.13		
s				3.838 981	≈ 26.1 (1038.5)
Sin α				9.888 257	
A′				8.508 736	
Sec φ′				0.242 221	
Δλ				2.478 195	− 300.743
Sin ½(φ+φ′)				9.913 658	
−Δα				2.391 853	− 246.52

	°	′	″			°	′	″
α	3 BLUFF to 2 PLAT					348	20	44.1
3d ∠	&					− 65	06	02.4
α	3 BLUFF to 1 STEEP					283	14	41.7
Δα						+	05	3.0
						180	00	00.0
α′	1 STEEP to 3 BLUFF					103	19	44.7

	°	′	″			°	′	″
φ	55	05	19.92	3 BLUFF	λ	162	36	10.99
Δφ	−	00	50.06		Δλ	−	06	9.52
φ′	55	04	29.86	1 STEEP	λ′	162	30	01.47

	Logarithms	Values in seconds
s	3.828 388	+
Cos α	9.360 052	
B	8.509 704	
h	1.698 144	1st term + 49.905
s²	7.656 776	
Sin²α	9.976 582	
C	1.559 18	
	9.192 538	2d term + .156
h²		
D		
		3d term +
		−Δφ +50.061

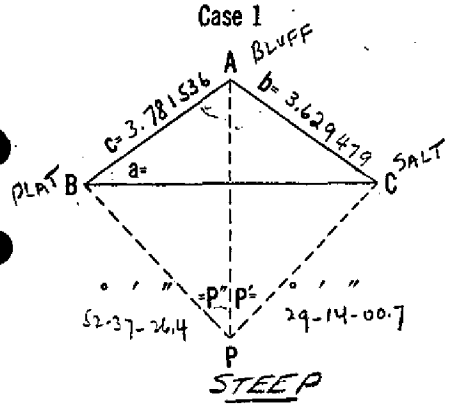
	°	′	″	Logarithms	Values in seconds
½(φ+φ′)	55	04	54.89		
s				3.828 388	
Sin α				9.988 291	−
A′				8.508 736	
Sec φ′				0.242 221	
Δλ				2.567 636	− 369.518
Sin ½(φ+φ′)				9.913 798	
−Δα				2.481 434	− 303.0

11—0362 U. S. GOVERNMENT PRINTING OFFICE, 1929

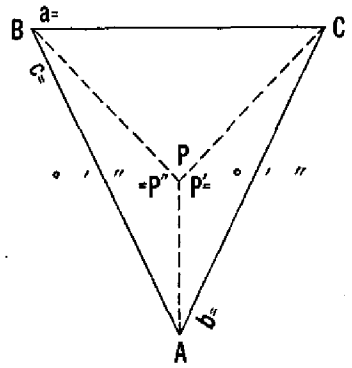
DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 655
Ed. Jan., 1929

COMPUTATION OF THREE-POINT PROBLEM

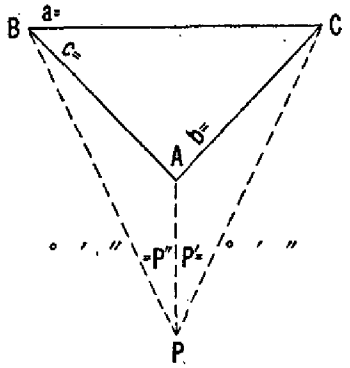
Case 1



Case 2



Case 3



Cases 1 and 2

P' 29- 14 - 00.7 ✓
P" 52 - 37 - 26.4 ✓
A 165 - 19 - 36.3 ✓

Sum 247 -11 -03.4 ✓
½ Sum 123 - 35 - 31.7

S = 180° − ½ sum = 56- 24- 28.3

Log c = 3.781 536 ✓
Log sin P' = 9.688 749 ✓✓
Colog b = 6.370 521 ✓✓
Colog sin P" = 0.099 814 ✓✓

Sum = log tan Z = 9940 620 ✓

Z = 41°-05'- 42.7" ✓✓
Z+45° = 86°-05'- 42.7" ✓✓

Log cot (Z+45°) = 8.834 150 + ✓
Log tan S = 10.177 701 + ✓✓

Sum = log tan ϵ = 9.011 851 ✓ (sign +)

ϵ = 05°-52'-02.9
S = 56- 24- 28.3

Case 3

P'
P"

Sum
A

A − sum
S = ½ (A − sum) =

✓

(Tan ϵ+)		(Tan ϵ−)
S+ϵ = angle ABP	62 -16 -31.2	S−ϵ = angle ABP
S−ϵ = angle ACP	50 -32 -25.4	S+ϵ = angle ACP

BPA 52- 37- 26.4 ✓	APC 29- 14- 00.7 ✓	PCB
ABP 62- 16- 31.2 ✓	PCA 50- 32- 25.4 ✓	CBP
PAB 65- 06- 02.4 ✓	CAP 100- 13- 33.9 ✓	BPC
180 00 00.0	180-00-00.0	

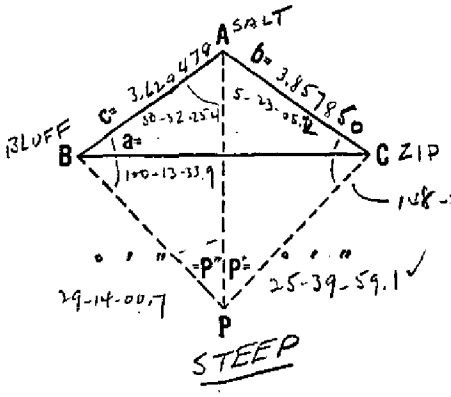
(For explanation of this form see Special Publication No. 138, pages 191 and 192, or Special Publication No. 145.)

U. S. GOVERNMENT PRINTING OFFICE: 1933

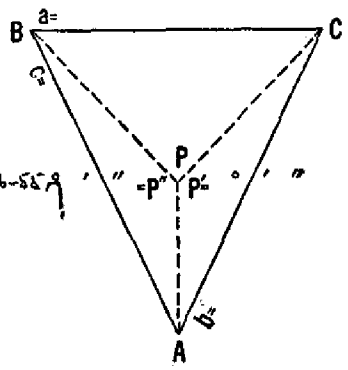
DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 655
Ed. Sept., 1929

COMPUTATION OF THREE-POINT PROBLEM

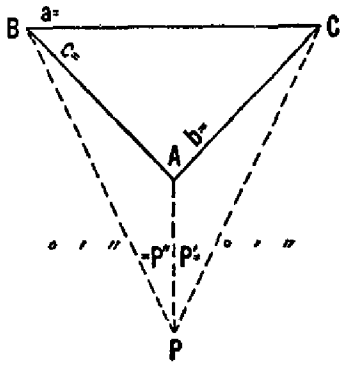
Case 1



Case 2



Case 3



Cases 1 and 2

P′	25-39-59.1 ✓
P″	29-14-00.7 ✓
A	55-55-30.6 ✓
Sum	110-49-30.4 ✓
½ Sum	55-24-45.2 ✓

S = 180° − ½ sum = 124-35-14.8 ✓

Case 3

P′	
P″	
Sum	
A	

S = ½ (A − sum) =

Log c =	3.629479	+ ✓
Log sin P′ =	9.636619	✓
Colog b =	0.147150	✓
Colog sin P″ =	0.311251	✓
Sum = log tan Z =	9.719499	+
Z =	27°-39'-49.1"	+ ✓
Z+45° =	72°-39-49.1"	+ ✓
Log cot (Z+45°) =	9.494380	+ ✓
Log tan S =	10.161447	✓ −
Sum = log tan ϵ =	9.655827	(sign −)

ϵ 24°-21-25.5
S 124-35-14.8

(Tan ϵ+)
S+ϵ = angle ABP
S−ϵ = angle ACP

100-13-49.3
148-56-40.3

(Tan ϵ−) ✓
S−ϵ = angle ABP
S+ϵ = angle ACP

BPA	29-14-00.7	APC	25-39-59.1	PCB	
ABP	100-13-49.3	PCA	148-56-40.3	CBP	
PAB	55-32-10.0	CAP	05-23-20.6	BPC	
	180-00-00.0		180-00-00.0		

(For explanation of this form see Special Publication No. 138, pages 191 and 192, or Special Publication No. 145, pages 98–100)

U. S. GOVERNMENT PRINTING OFFICE: 1929
11—9912

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 25
Ed. Jan., 1929

COMPUTATION OF TRIANGLES

State: Alaska

11—9121

NO.	STATION	OBSERVED ANGLE	CORR'N	SPHER'L ANGLE	SPHER'L EXCESS	PLANE ANGLE AND DISTANCE	LOGARITHM
	2-3						3.679 479
	1 Steep	29-14-00.7					0 311 251
	2 Bluff	100-13-33.9					9.993 046
	3 Salt	50-32-25.4					9.887 658
	1-3						3 933 776 ✓
	1-2						3.878 388 ✓
	2-3						3.781 536
	1 STEEP	52-37-26.4					0.099 814
	2 Plat	62-16-31.2					9.947 038
	3 Bluff	65-06-02.4					9.957 631
	1-3						3.878 388 ✓
	1-2						3.838 981
	2-3						
	1						
	2						
	3						
	1-3						
	1-2						
	2-3						3.776 339
	1 STEEP	54-53-59.8					0087 167
	2 Bluff	(12-22-14.5)					9330 890
	3 Zip	112-43-45.7					9.964 891
	1-3						3.194 396
	1-2						3.878 397 ✓✓

Do not write in this margin

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 25
Ed. Jan., 1929

COMPUTATION OF TRIANGLES

State: Alaska

11—0121

U. S. GOVERNMENT PRINTING OFFICE: 1929

NO.	STATION	OBSERVED ANGLE	CORR'N	SPHER'L ANGLE	SPHER'L EXCESS	PLANE ANGLE AND DISTANCE	LOGARITHM
	2-3						3.857850
214	1 Step	25-39-59.1					0.363381
	2 Salt	05-03-20.6					8.972749
	3 Z.P	148-56-40.3					9.712538
	1-3						3.193980
	1-2						3.933769 ✓
	2-3						3.629479
	1 Step	29-14-00.7					0.311251 ✓
	2 Salt	50-32-10.0					9.887632
	3 Bluff	100-13-49.3					9.993040
	1-3						3.828363 //
	1-2						3.933770 ✓
	2-3						
	1						
	2						
	3						
	1-3						
	1-2						
	2-3						
	1						
	2						
	3						
	1-3						
	1-2						

Do not write in this margin

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 24A
Rev. Oct., 1932

LIST OF DIRECTIONS

STEEP

Station ~~Special~~ 1941 State ALASKA

Chief of party L.D. Graham Date 5/31/41 Computed by T.P.L.

Observer T.P. LUSHENE Instrument # 371 Checked by [illegible]

U. S. GOVERNMENT PRINTING OFFICE: 1937 11—9503

OBSERVED STATION	Observed direction	Eccentric reduction	Sea level reduction*	Corrected direction with zero initial	Adjusted direction*
	° ′ ″	′ ″	″	° ′ ″	′ ″
PLAT 1943	0 00 00.00			0 00 00.00	
BLUFF 1943	52-37-26.4				
SALT 1943	81-51-27.1				
ZIP 1941	107-31-26.2				

Three point fix for hydrographic control

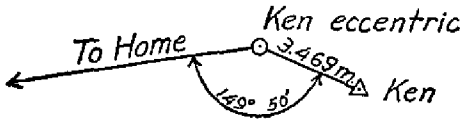
* These columns are for office use and should be left blank in the field.

Station: Ken | *State:* Maryland

Chief of party: C. V. H. | *Date:* 1917 | *Computed by:* O. P. S.

Observer: C. V. H. | *Instrument:* No. 168 | *Checked by:* W. F. R.

OBSERVED STATION	Observed direction	Eccentric reduction	Sea level reduction	Corrected direction with zero initial	Adjusted direction
	° ′ ″	′ ″	″	° ′ ″	′ ″
Chevy	0 00 00.00	− 7.31		0 00 00.00	
Tank west of △ Dulce	29 03 37.0	−1 09.8		29 02 34.5	
Ken (center), 3.469 meters	176 42				
Forest Glen standpipe	313 24 53.0	+3 01.2		313 28 01.5	
Home	326 31 30.21	+ 31.93		326 32 09.45	
Bureau of Standards, wireless pole	352 17 20.8	+ 5.7		352 17 33.8	
Reno	357 28 48.63	− 1.16		357 28 54.78	
Reference mark, 16.32 m	358 31 20				



This form, with the first three and fifth columns properly filled out and checked, must be furnished by field parties. *To be acceptable it must contain every direction observed at the station.*

It should be used for observations with both repeating and direction theodolites.

The directions at only one station should be placed on a page.

If a repeating theodolite is used, do not abstract the angles in tertiary triangulation. The local adjustment corrections (to close horizon only) are to be written in the Horizontal Angle Record, and the List of Directions is to be made from that record directly.

Choose as an initial for Form 24A some station involved in the local adjustment, and preferably one which has been used as an initial for a round of directions on objects not in the main scheme. Use but one initial at a station. Call the direction of the initial 0° 00′ 00.″ 00, and by applying the corrected angles to this, fill in opposite each station its direction reckoned *clockwise* around the whole circumference regardless of the direction of graduation of the instrument. The clockwise reckoning is necessary for uniformity and to make the directions comparable with azimuths.

If a station has been occupied eccentrically, reduce to the center and enter in this form, in ink, the resulting corrections to the observed directions in the column provided for them. If an eccentric reduction is necessary, but not made in the field, leave the column blank. If the station was occupied centrally, and no eccentric reduction is required, put dashes in the column to show that no corrections are necessary.

Directions in the main scheme should be entered to hundredths of seconds in first-order triangulation; otherwise to tenths only. Points observed upon but once, direct and reverse, should be carried to tenths in first-order and second-order triangulation, and to even seconds only in third-order triangulation. In general, but two uncertain figures should be given.

It is recommended that the following simple plan of observing be used with a repeating instrument: Measure each single angle in the scheme at each station and the outside angle necessary to close the horizon. *Measure no sum angles.* Follow each measurement of every angle immediately by a measurement of its explement. Six repetitions are to constitute a measurement. The local adjustment will consist simply of the distribution of the error of closure of the horizon.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 470
Ed. Oct., 1932

ABSTRACT OF DIRECTIONS

Station STEEP 1941 State ALASKA

Computed by J. P. L. Date 5/31/41

Observer J. P. L. Checked by CPC Inst. No. 321

U. S. GOVERNMENT PRINTING OFFICE 1941 11—4389

DO NOT WRITE IN THIS MARGIN

POSITION NO.	STATIONS OBSERVED							
	PLAT 1943	BLUFF 1943	SALT 1943	ZIP 1941				
	(INITIAL) 0° 00″	° ′ 52-37	° ′ 81-51	° ′ 107-31	° ′	° ′	° ′	° ′
	″	″	″	″	″	″	″	″
1	0.00	21.7	25.4	20.2				
2	0.00	30.9	27.5	31.6				
3	0.00	24.0	25.8	25.0				
4	0.00	28.9	29.8	28.1				
5	0.00							
6	0.00							
7	0.00							
8	0.00							
9	0.00							
10	0.00							
11	0.00							
12	0.00							
13	0.00							
14	0.00							
15	0.00							
16	0.00							
Sum,		1055	1085	1049				
Mean,		26.4	27.1	26.2				
Cor. for sec.,								
Direction,								

DM's & DP's, Signals
Topographic sheet A-41
****

Name	Actual values 1:5000 scale				DM's & DP's Any scale			Remarks
	°	'	"	meters	°	'	meters	
		07	30	-329.3		08	-1257	
End	55	07	00	+598.4 m	55	07	+598.4 m	White wash
		29	30	-253.3		30	-785	
	162	29	00	+278.4 m	162	29	+278.4 m	
		07	30	-414		08	-1341.7	
Lag	55	07	00	+513.5	55	07	+513.5	White wash
								" banner
		30	00	-303		30	-303	
	162	29	30	+229	162	29	+760.7	
		07	30	-445		08	-1372.7	
Ray	55	07	00	+482.5	55	07	+482.5	White washed x
		30	30	-512		31	-1044	
	162	30	00	+ 20	162	30	+ 20	
		07	30	-518.5		08	-1446.2	
Bull	55	07	00	+ 409	55	07	+ 409	White wash
		30	30	-228		31	-760	
	162	30	00	+ 304	162	30	+ 304	
		07	30	-670		08	-1597.7	
Bow	55	07	00	+257.5	55	07	+ 257.5	White wash
		30	30	-40.5		31	-572.5	
	162	30	00	+ 491.5	162	30	+ 491.5	
		07	30	-662.5		08	-1590.2	
Pad	55	07	00	+ 265	55	07	+ 265	White wash
								" flag
		31	00	-259		31	-259	
	162	30	30	+ 273	162	30	+ 805	

DM's & DP's, Signals
Topographic sheet A-41
****

Name	Actual values 1:5000 scale				DM's & DP's Any scale			Remarks
	°	′	″	meters	°	′	meters	
		07	30	-769		08	-1696.7	
Wash	55	07	00	+158.5	55	07	+158.5	White wash
		31	00	-29		31	-29	
	162	30	30	+503	162	30	+1035	
		07	30	-813.5		08	-1741.2	
Na	55	07	00	+114	55	07	+114	White wash Blk. & white tripod
		31	30	-282		32	-814	
	162	31	00	+250	162	31	+250	
		07	00	-63		07	-63	
Pin	55	06	30	+864.5	55	06	+1792.2	White wash red flag
		31	30	-227		32	-759	
	162	31	00	+305	162	31	+305	
		07	00	-52.5		07	-52.5	
"F"	55	06	30	+875	55	06	+1802.7	Blk. & white boards- setup
		31	30	-247.5		32	-779.5	
	162	31	00	+284.5	162	31	+284.5	
		07	00	-109		07	-109	
War	55	06	30	+818.5	55	06	+1746.2	White wash
		31	30	-306		32	-838	
	162	31	00	+226	162	31	+226	
		07	00	-273.5		07	-273.5	
Sun	55	06	30	+654	55	06	+1581.7	White wash Diagonal stripes
		31	30	-346.5		32	-878.5	
	162	31	00	+185.5	162	31	+185.5	

DM's & DP's, Signals
Topographic Sheet A-41
****

Name	Actual values 1:5000 scale				DM's & DP's Any scale			Remarks
	°	'	"	meters	°	'	meters	
		07	00	-386		07	-386	
Out	55	06	30	+ 541.5	55	06	+1469.2	White wash " flag
		31	30	-272.5		32	-804.5	
	162	31	00	+ 259.5	162	31	+ 259.5	
		07	00	-509.5		07	-509.5	
Tusk	55	06	30	+ 418	55	06	+1345.7	White wash
		31	30	-281.5		32	-813.5	
	162	31	00	+ 250.5	162	31	+ 250.5	
		07	00	-642		07	-642	
Hit	55	06	30	+ 285.5	55	06	+1213.2	Blk. & white boards
		31	30	-322		32	-854	
	162	31	00	+ 210	162	31	+ 210	
		07	00	-781		07	-781	
Gab	55	06	30	+ 146.5	55	06	+1075.2	West gable tin shack
		31	30	-360		32	-892	
	162	31	00	+ 172	162	31	+ 172	
		07	00	-923		07	-923	
Ban	55	06	30	+ 04.5	55	06	+932.2	White banner
		31	30	-143.5		32	-675.5	
	162	31	00	+ 388.5	162	31	+ 388.5	
		06	30	-269		07	-1196.7	
Pop	55	06	00	+ 658.5	55	06	+ 658.5	Blk. & white tripod
		31	30	-07		32	-539	
	162	31	00	+ 525	162	31	+ 525	

DM's & DP's, Signals
Topographic Sheet A-41
****

Name	Actual values 1:5000 scale				DM's & DP's Any scale			Remarks
	°	'	"	meters	°	'	meters	
		06	30	-313.5		07	-1241.2	
Cow	55	06	00	+ 614	55	06	+ 614	White banner
		31	30	-204.5		32	-736.5	
	162	31	00	+ 327	162	31	+ 327	
		06	30	-373.5		07	-1301.2	
Val	55	06	00	+ 554	55	06	+ 554	White boards " flag
		31	30	-404		32	-936	
	162	31	00	+ 128	162	31	+ 128	
		06	30	-550.5		07	-1478.2	
Ty	55	06	00	+ 377	55	06	+ 377	White wash
		31	00	-37		31	-37	
	162	30	30	+ 495	162	30	+ 1027	
		06	30	-677		07	-1604.7	
Min	55	06	00	+ 250.5	55	06	+ 250.5	White wash Blk. & white flag
		31	00	-187		31	-187	
	162	30	30	+ 345	162	30	+ 877	
		06	30	-839		07	-1766.7	
Que	55	06	00	+ 88.5	55	06	+ 88.5	White wash
		31	00	-291.5		31	-291.5	
	162	30	30	+ 240.5	162	30	+ 772.5	
		06	00	-211		06	-211	
Cob	55	05	30	+ 716.5	55	05	+ 1644.5	Blk. & white tripod
		31	00	-338.5		31	-338.5	
	162	30	30	+ 193.5	162	30	+ 725.5	
		06	00	-463.5		06	-463.5	
Tar	55	05	30	+ 524	55	05	+ 1451.7	Blk. & white boards
		31	00	-435.5		31	-435.5	
	162	30	30	+ 96.5	162	30	+ 628.5	

DM's & DP's, Signals
Topographic Sheet A-41
****

Name	Actual values 1:5000 scale				DM's & DP's Any scale			Remarks
	°	'	"	meters	°	'	meters	
		06	00	-621.5		06	-621.5	
Log	55	05	30	+ 306	55	05	+1233.7	Red & blk. banner white boards
		30	30	-26		31	-558	
	162	30	00	+ 506	162	30	+ 506	
		06	00	-874.5		06	-874.5	
Cat	55	05	30	+ 53	55	05	+980.7	White wash
		31	00	-518		31	-518	
	162	30	30	+ 14	162	30	+ 546	
		05	30	-121.5		06	-1049.2	
Kin	55	05	00	+ 806	55	05	+806	White wash
		31	00	-528		31	-528	
	162	30	30	+ 04	162	30	+ 536	
		05	30	-289		06	-1216.7	
Bel	55	05	00	+ 638.5	55	05	+ 638.5	White wash
		31	00	-450.5		31	-450.5	
	162	30	30	+ 81.5	162	30	+ 613.5	
		05	30	-429		06	-1356.7	
Ref	55	05	00	+ 498.5	55	05	+ 498.5	White wash
		31	00	-450		31	-450	
	162	30	30	+ 82	162	30	+ 614	
		05	30	-540.2		06	-1467.9	
Ace	55	05	00	+ 387.5	55	05	+ 387.5	White wash
		30	30	-16		31	-548.2	
	162	30	00	+ 516.2	162	30	+ 516.2	
		05	30	-643		06	-1570.7	
Bat	55	05	00	+ 284.7	55	05	+ 284.7	White washed pinnacle rock
		30	30	-84		31	-616.2	
	162	30	00	+ 448.2	162	30	+ 448.2	

DM's & DP's, Signals
Topographic Sheet A-41
****

Name	Actual values 1:5000 scale				DM'S & DP'S Any scale			Remarks
	°	'	"	meters	°	'	meters	
		05	30	-802		06	-1729.7	
Can	55	05	00	+125.7	55	05	+125.7	White wash
		30	30	-166		31	-698.2	
	162	30	00	+366.2	162	30	+366.2	
		05	00	-55.5		05	-55.5	
Dub	55	04	30	+872.2	55	04	+1799.9	White flag
		30	30	-223.8		31	-756	
	162	30	00	+308.5	162	30	+308.5	
		05	00	-719.2		05	-719.2	
Eat	55	04	30	+208.5	55	04	+1136.2	White wash
		30	30	-263.2		31	-795.4	
	162	30	00	+269	162	30	+269	
		05	00	-300		05	-300	
Fun	55	04	30	+627.7	55	04	+1555.4	White wash
		30	30	-441.5		31	-937.7	
	162	30	00	+90.7	162	30	+90.7	
		05	00	-487.7		05	-487.7	
Gal	55	04	30	+440	55	04	+1367.7	Whitewash
		30	00	-58		30	-58	
	162	29	30	+474.3	162	29	+1006.5	

	Remarks	Decisions
1		550625 U.S.N.B
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		

M 234

GEOGRAPHIC NAMES

Survey No. T6860

Name on Survey	On Chart No. A,	On previous survey No. B,	On U. S. quadrangle Maps C,	From local information D	On local Maps E	P. O. Guide or Map F	Rand McNally Atlas G	U. S. Light List H	K	
Cold Bay										1
Kaslokan Point										2
Kelp Point										3
			[illegible]							4
			by L. Heck on 3/13/42							5
										6
										7
										8
										9
										10
										11
										12
										13
										14
										15
										16
										17
										18
										19
										20
										21
										22
										23
										24
										25
										26
										27

M 234

FORM M-238

MEMORANDUM

IMMEDIATE ATTENTION

SURVEY
DESCRIPTIVE REPORT
~~PHOTOSTAT OF~~

~~No.~~ No. T T6860

received January 28, 1942
registered January 31, 1942
verified
reviewed
approved

This is forwarded in order that your attention may be directed to the matters as indicated below. Please initial in column 3 as an acknowledgement that your attention has been thus directed. The complete original records are available if desired. If you cannot give this your immediate attention, please initial, note, and forward to the next section marked, calling for the records at your convenience.

ROUTE		Initial	Attention called to
20			
22			
24			
25			
26			
30			
40			
62			
63			
82			
83			
88			
90			

RETURN TO

82	R. W. Knox

✓ RWK

DIVISION OF CHARTS

SURVEYS SECTION

REVIEW OF TOPOGRAPHIC SURVEY — REGISTER NO. 6860
Field No. A-41

S. W. Alaska; East Side of Cold Bay;
Vicinity of Kelp and Kaslokan Points
Surveyed May - June 1941, Scale 1:5,000
Instructions dated March 18, 1938, and April 26, 1941
(DISCOVERER)

Plane Table Survey — Aluminum Mounted

Chief of Party - L. D. Graham
Surveyed and inked by - J. T. Jarman
Reviewed by - J. A. McCormick, April 8, 1942
Inspected by - H. R. Edmonston

1. Adjoining Surveys

This is a resurvey (for hydrographic control) of a part of the area previously surveyed on T-4080 (1924), scale 1:20,000. There are no other 1941 topographic surveys in the vicinity. Differences of as much as 40 meters in shorelines of the two surveys (Descriptive Report, pages 7 and 9) are believed mostly due to greater generalization on the smaller scaled survey of 1924. Elevations of 1205 and 678 feet at control points A and B on the present survey are approximately 500 feet greater than indicated by form lines of T-4080. Such wide discrepancies can only be disposed of by additional form lining. Adjustment of the 1924 form lines to the 1941 elevations is not practicable and it is therefore suggested that the two elevations be omitted from the charts.

2. Previous Surveys

T-4080 (1924), discussed in the preceding paragraph, is the only previous survey of the area by this Bureau.

3. Comparison with Chart 8703 (New Print of 11-10-1941)

Topography charted in this area is entirely from T-4080 (1924). The light on Kaslokan Point was established subsequent to completion of the present survey but its position was determined on H-6704 (1941).

4. Compliance with Project Instructions

Satisfactory.

5. Additional Field Work Recommended

None. Discrepancies between elevations of the present survey and form lines of T-4080 (1924) are noted as a matter of record (par. 1).

6. Superseded Surveys

T-4080 in part.

Examined and approved:

Robert W. King
Chief, Surveys Section

F. S. Borden
Chief, Division of Charts

acting Fred. L. Peacock
Chief, Section of Hydrography

G. Rude
Chief, Division of Coastal Surveys