5724

Diag'd. on Diag.Ch. No. 77-4

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey Air Photo

Field No. CS-215-C Office No. T- 5724

LOCALITY

State Maryland

General locality Eastern Shore

Locality Tilghman Island

Photos - May1, 1937 - June 24, 1937

194 1

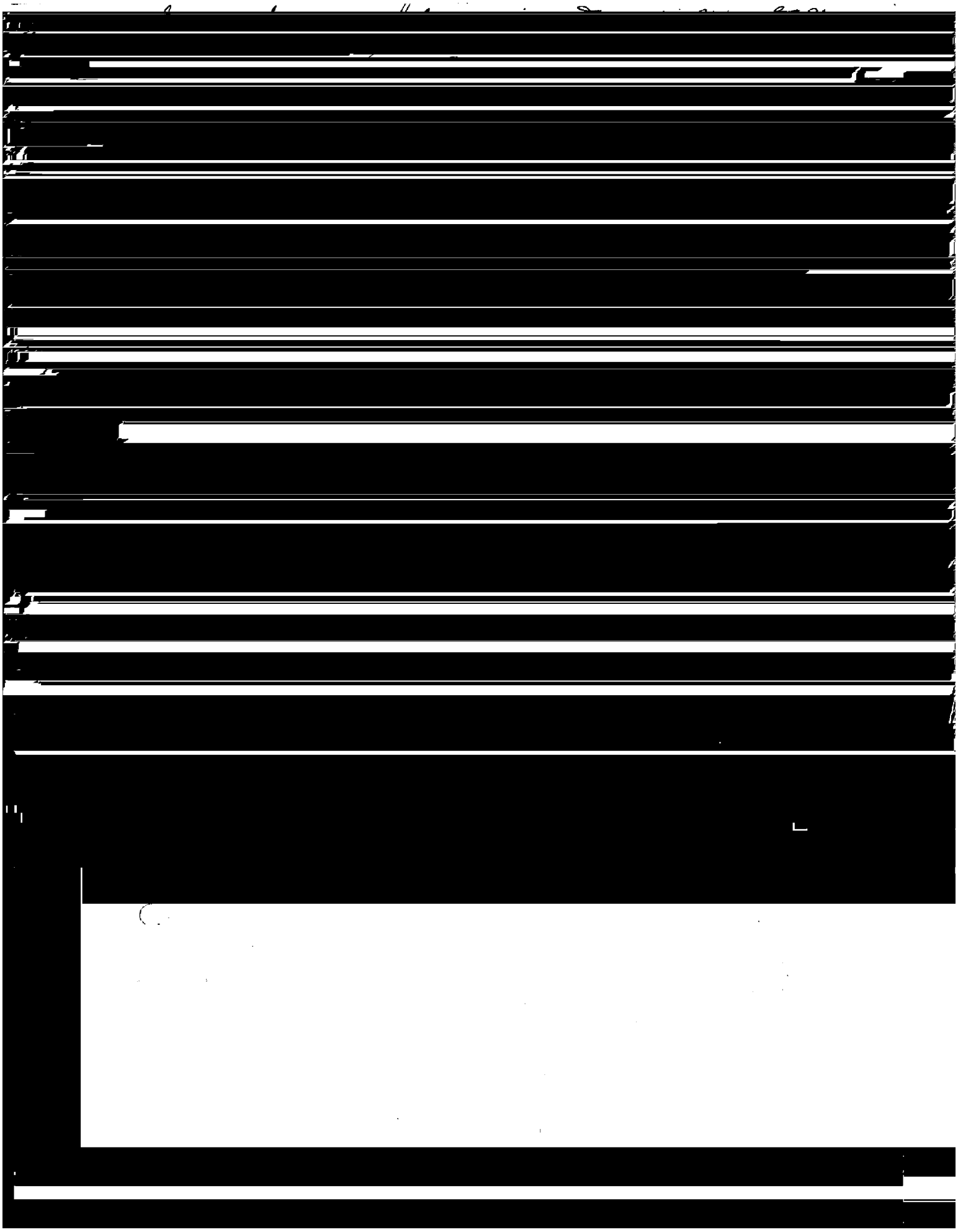
CHIEF OF PARTY

L.W. Swanson

LIBRARY & ARCHIVES

DATE

5724



CS-215C

Form 537a
Ed. Nov. 1929

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO. T-5724

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. T-5724

REGISTER NO.

State Maryland

General locality Eastern Shore

Locality Tilghman Island

Scale 1:10,000 Date of ~~survey~~ photographs June 24, 1937

~~Vessel~~ Air Photo Party # 2

Chief of party L.W. Swenson

~~Surveyed by~~ Field Inspection - D.A. Jones, R.A. Gilmore

Inked by N.L. Kaslow

Heights in feet above ..... to ground to tops of trees

Contour, Approximate contour, Form line interval ..... feet

Instructions dated May 13, June 1, 1938; August 28, 1939

Remarks: This sheet is a revision of T-5425, dated 1/3/35

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0 P O

Ms. received:
Reviewed: 28 Nov. 1941
Redrafted:
Published: 1943
Registered: 19 Jan. 1944

Radial Plot

The location and distribution of the available photos for this sheet were of such nature that a combined plot could not be run in conjunction

Comparison with Previous Surveys

T-5425

This compilation was prepared from five lens air photos taken 11-28-33, and recommended for approval 1-3-35.

In general the shoreline of the 1935 compilation checks fairly well with that of the present. No large discrepencies are evident, although local differences ranging up to 15 meters in magnitude may be noted. Some of these differences may be due some errosion and others, to a difference in interpretation of the high water line. Specifically there seems to have been an errosion of roughly 30 meters in width and 450 meters in length on the western shore of the island just south of Lat. 38-41. On the same shoreline south of Lat. 38-43; a sliver 20 meters wide and600 meters long appears to have erroded. At Black Walnut Point and Lower Bar Neck Point appear to be due to difference in interpretation of shoreline and graphics. The delineation of shoreline at these two points may be more correct on the present compilation than that on the earlier one, because the additional triangulation available in the first instence, afforded a very accurate orientation of pictures.

Geographic Names

The names appearing on sheet T- 5425 were checked by Lieut.(j.g.) J.N. Jones and found to be correct. The sole exception being Barron Neck. This neck of land is locally known as Bar Neck. This seems to agree with the names at the two ends of the neck, namely, Upper and Lower Bar Neck Point, which appear on the U.S.C.&G. Chart No. 1225.

Land marks

The landmark Tower appearing on chart 1225 has been cut in by triangulation and the new position will be found listed on form 567. Ho.Cu. appearing on the same chart has been destroyed.

Aids to Navigation

Copy of letter from U.S. Coast Guard is included in this report and is self explanatory. New positions for those lights which have not been moved since the date of the photographs(6-24-37) are given on form 567. The position for these were obtained by radial intersection. Lights nos. 1951, 1952, and 1971, having been reestablished since 6-24-37, were located by sextant.

Ch. Let No 1941

Junction

A good junction with sheet T-5723 was made. The meridial line 76-22' doesnot appear to line up. Since there is no land area along that line, no attempt was made to distribute the error. It is possible that the error is solely in that line and not in the entire projection. Corrected in office.

Accuracy of Survey

As has previously been noted, the photographs used in this compilation were originally 1:20,000 and then enlarged to 1:10,000. In so doing, the sharpness

of some topographic features are blurred out. The error thus introduced would be local and not of great extent; in the case of houses, they would in some instances be errors in shape, but not in position. The large amount of good control used permitted very accurate orientation of the photographs, despite the absence of fiducial marks. In general it may be said that the accuracy of this sheet is consistent with that of the other sheets in this project.

Hydrographic Signals

Due to lack of photographs some of the hydrographic sygnals in the south central part of the sheet were determined by only two cuts. These signals were encircled with green ink and should be used with caution.

Respectfully submitted,

Ned L. Kaslow

Ned L. Kaslow
Sr. Photogrammetric Aid (Field)

Baltimore, Md. ~~March 25~~ April 10, 1941.

Approved:

L.W. Swanson, Chief of Party

Location of Sharps Island: The island is covered by one more line photo No 1445, centered on the island and including Δ sta. Sharps I. Light Ho. Position of the center of the photograph was determined by the 3 pt fixes discussed on the following pages. Orientation of the photograph was on Δ Sharps Island Light House. ~~The scale of the island was~~ The island was then traced directly from the photograph which is to the same scale as the collotype. A scale check was obtained by three short distances measured on the island - and by the distance to the light House.

BJ Jones

METHOD EMPLOYED IN THE DETERMINATION OF LOCATION OF F.I.S. "THORN", SHARPS ISLAND, MARYLAND.

See note on opposite page.

Due to the absence of any triangulation stations on Sharps Island and to the lack of photographs of a scale which would permit a radial plot to be run in the usual manner, it was necessary to determine a geographic position of some object which could be identified in the office print of Sharps Island, inorder to properly detail the same.

On November 15, 1939, Ensign A. L. Wardwell observed a round of sextant angles, to all prominent objects which could be identified and determined from the photographs of the adjoining shore. The objects observed upon were: 1. Silo, near triangulation station Dupont 1934, 2. Water Tank, on Irish Creek, 3. Tower, at Fairbanks, and 4. Sharps Island Light House 1898-1934. The point from which these observations were made was the prominent thorn tree, near the center of the island which has been called F.I.S. "Thorn". The angles were recorded on the back if Field Inspection Photograph No. 1445 (nine lens) and the F.I.S. pricked on same.

The locations of objects 1. and 2. were determined from a radial plot of well controlled 1:20000 photographs and their positions scaled from the control sheet. The position of the water tank was a little stronger than that of the silo in as far as there were three check cuts on the former. The position of 3. was scaled from T-5724. 4. is located by triangulation.

Two three-point problems were solved from the above data and G.Ps' were computed from same, using objects 1., 2., and 3. for one fix and objects 2., 3., and 4. for the other. The agreement of the two positions was good and the accepted position, which is the mean of the two, is probably correct within 4 meters.

The accepted position of F.I.S. "Thorn" is:

		FIRST FIX	SECOND FIX
Lat. 38° 37' +248 meters.	/	(246 m.)	(251 m.)
Long. 76° 21' +1317 meters.	/	(1316 m.)	(1318 m.)

The data for the above and computations of same are attached to this report.

Respectfully submitted,

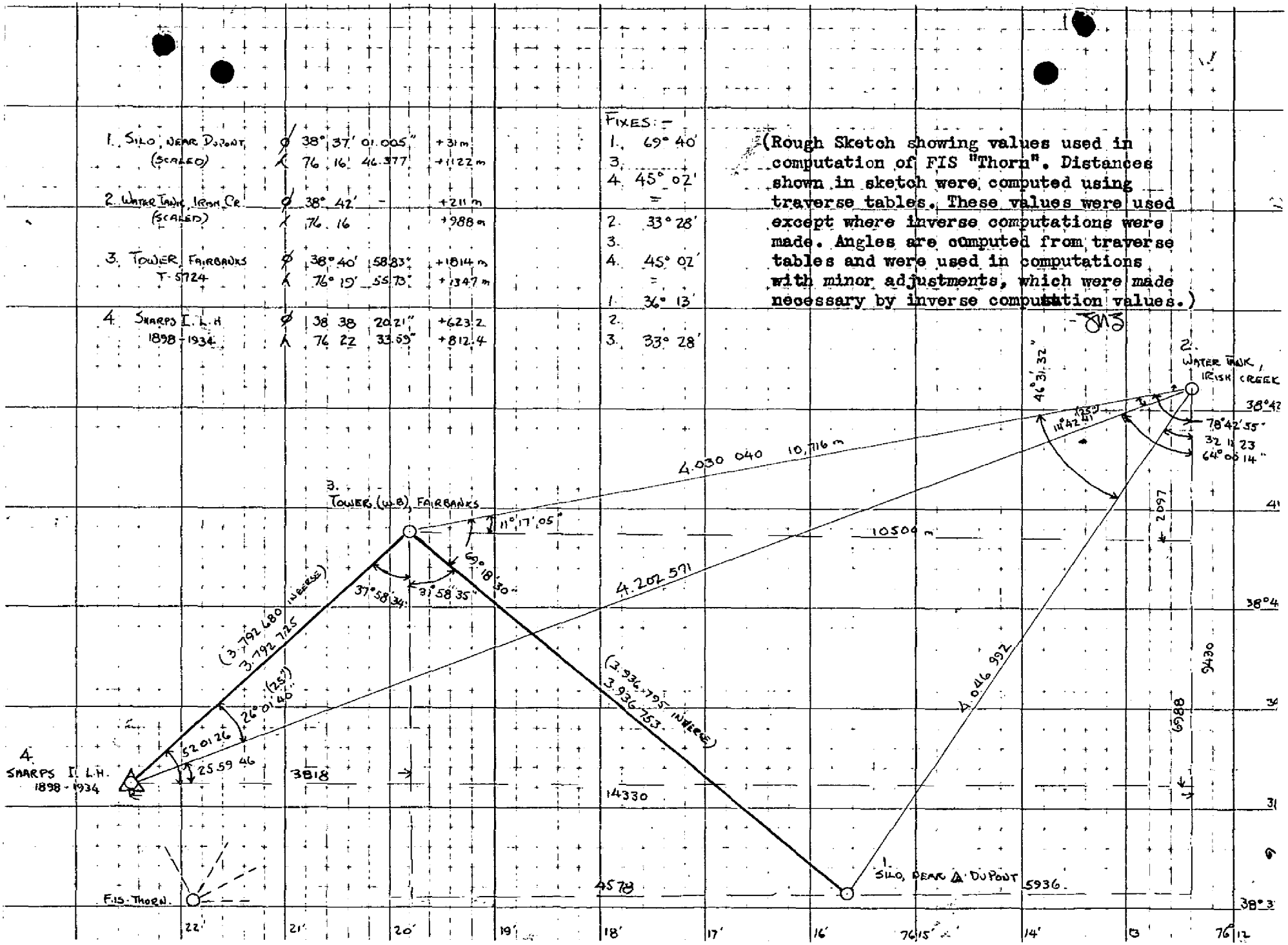
James N. Jones

James N. Jones,
Jr. H. & G. E.

July 19, 1940
APPROVED & FORWARDED:

L. W. Swanson

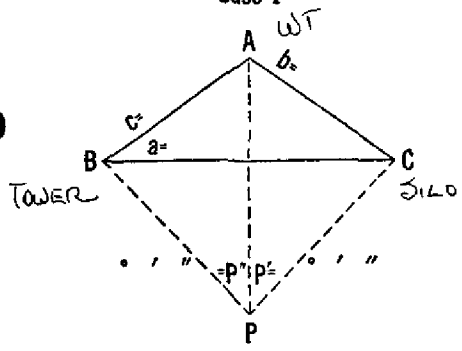
L. W. Swanson, Chief of Party


1. SILO, NEAR DUPONT (SCALED) φ 38° 37' 01.005" +31 m λ 76 16 46.377 +1122 m
2. WATER TANK, IRISH CR (SCALED) φ 38° 42' +211 m λ 76 16 +988 m
3. TOWER, FAIRBANKS T-5724 φ 38° 40' 58.83" +1814 m λ 76° 15' 55.73" +1347 m
4. SHARPS I. L. H. 1898 - 1934 φ 38 38 20.21" +623.2 λ 76 22 33.59" +812.4
FIXES:-
1. 69° 40'
3.
4. 45° 02'
=
2. 33° 28'
3.
4. 45° 02'
=
1. 36° 13'
2.
3. 33° 28'
(Rough Sketch showing values used in computation of FIS "Thorn". Distances shown in sketch were computed using traverse tables. These values were used except where inverse computations were made. Angles are computed from traverse tables and were used in computations with minor adjustments, which were made necessary by inverse computation values.)
4. SHARPS I. L.H. 1898 - 1934
3. TOWER, (W.B), FAIRBANKS
2. WATER TANK, IRISH CREEK
1. SILO, NEAR DUPONT
F.I.S. THORN.
4.030 040 10,716 m
4.202 571
4.046 992
3.792 680 (INVERSE)
3.792 725
3.936 795 (INVERSE)
3.936 753
10504 m
11°17'05"
69°18'30"
37°58'34"
31°58'35"
26°01'40"
52°01'26"
25°59'46"
46°31'32"
14°42'41"
78°42'55"
32 11 23
64°06'14"
3818
14330
4578
5936
2097
9430
9988
38°42
38°4
38°3
22'
21'
20'
19'
18'
17'
16'
15'
14'
13'
76°12

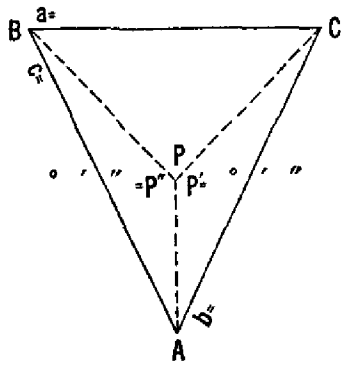
DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 655
Ed. Sept., 1929

COMPUTATION OF THREE-POINT PROBLEM

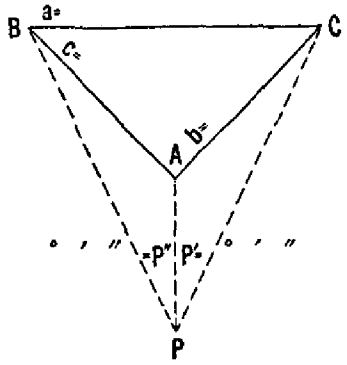
Case 1



Case 2



Case 3



Cases 1 and 2

P′	36 13
P″	33 28
A	46 31 32
Sum	116 12 32
½ Sum	58 06 16

S = 180° − ½ sum = 121 53 44

Case 3

P′	
P″	
Sum	
A	

A − sum

S = ½ (A − sum) =

Log c =	4.030 040
Log sin P′ =	9.771 470
Colog b =	5.953 008
Colog sin P″ =	.258 492
Sum = log tan Z =	10.013 010
Z =	45 51 29
Z + 45° =	90 51 29
Log cot (Z + 45°) =	8.175 425
Log tan S =	10.205 974
Sum = log tan ϵ =	8.381 399 (sign +)

ϵ 1° 22′ 43″
S 121° 53′ 44″

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

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

BPA	33 28	APC	36 13	PCB	76 21 03
ABP	123 16 27	PCA	120 31 01	CBP	53 57 57
PAB	23 15 33	CAP	23 15 59	BPC	69 41

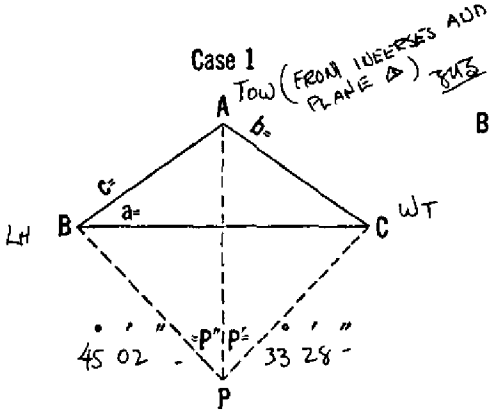
(For explanation of this form see Special Publication No. 138, pages 191 and 192, or Special Publication No. 145, pages 98–100)

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 656
Ed. Sept., 1929

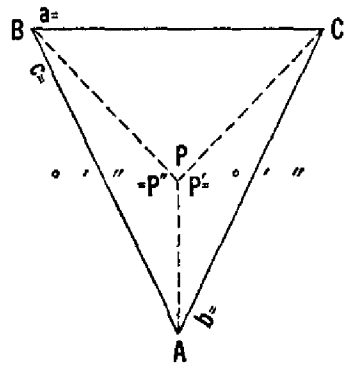
8

COMPUTATION OF THREE-POINT PROBLEM

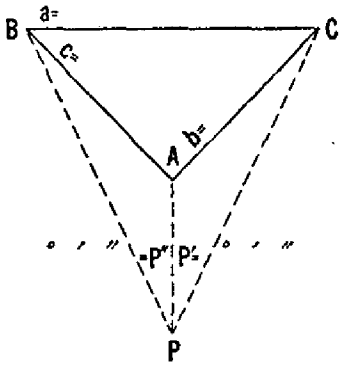
Case 1



Case 2



Case 3



✓

Cases 1 and 2

P′	33 28
P″	45 02
A	139 16 10
Sum	217 46 10
½ Sum	108 53 05

S = 180° − ½ sum = 71 06 55

Case 3

P′	
P″	
Sum	
A	

A − sum
S = ½ (A − sum) =

Log c =	3.792 680
Log sin P′ =	9.741 508
Colog b =	5.969 960
Colog sin P″ =	.150 262
Sum = log tan Z =	9.654 420
Z =	24° 17′ 15″
Z + 45° =	69 17 15
Log cot (Z + 45°) =	9.577 627
Log tan S =	10.465 874
Sum = log tan ϵ =	10.043 501 (sign +)
ϵ	47° 51′ 54″
S	71 06 55

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

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

BPA	45 02 00	APC	33 28	PCB	8 32 36
ABP	118 58 49	PCA	23 15 01	CBP	92 57 24
PAB	15 59 11	CAP	123 16 59	BPC	78 30 –

(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—9012

Comp 813

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	38°	40′	58.″829	TOWER	λ	76°	19′	55.″730
2. ϕ'	38	37	01.005	SILO	λ'	76	16	46.377
$\Delta\phi\ (=\phi'-\phi)$		3	57.824		$\Delta\lambda\ (=\lambda'-\lambda)$		3	09.353
$\frac{\Delta\phi}{2}$		1	58.912		$\frac{\Delta\lambda}{2}$			-
$\phi_m\left(=\phi+\frac{\Delta\phi}{2}\right)$	38	38	59.917					
$\Delta\phi$ (secs.)			237.″824		$\Delta\lambda$ (secs.)			189.″353

log $\Delta\phi$	2.376 256		**log** $\Delta\lambda$	2.277 272	
cor. arc−sin	—		cor. arc−sin	—	
log $\Delta\phi_1$			log $\Delta\lambda_1$		
log cos $\frac{\Delta\lambda}{2}$			**log cos** ϕ_m	9.892 637	
colog B_m	1.489 046		**colog** A_m	1.490 848	
log $\left\{s_1 \cos\left(\alpha+\frac{\Delta\alpha}{2}\right)\right\}$	3.865 312	(opposite in sign to $\Delta\phi$)	**log** $\left\{s_1 \sin\left(\alpha+\frac{\Delta\alpha}{2}\right)\right\}$	3.660 757 n	
			log $\left\{s_1 \cos\left(\alpha+\frac{\Delta\alpha}{2}\right)\right\}$	3.865 312 n	
			log tan $\left(\alpha+\frac{\Delta\alpha}{2}\right)$	9.795 445 n	
log $\Delta\lambda$	2.277 272	3 log $\Delta\lambda$	$\alpha+\frac{\Delta\alpha}{2}$	328° 01′ 13.″5	
log sin ϕ_m	9.795 575	log F	**log sin** $\left(\alpha+\frac{\Delta\alpha}{2}\right)$	9.723 962	
log sec $\frac{\Delta\phi}{2}$		log b	**log cos** $\left(\alpha+\frac{\Delta\alpha}{2}\right)$	9.928 517	
log a	2.072 847		**log** s_1	3.936 795	
a	118.3		cor. arc−sin	+ —	
b			log s	3.936 755	
$-\Delta\alpha$ **(secs.)**	118.3				
$\frac{\Delta\alpha}{2}$		59.″1			
		0 - 59.1			
$\alpha+\frac{\Delta\alpha}{2}$	328° 01′ 13.5				
α (1 to 2)	328 00 14.4				
$\Delta\alpha$	+ 1 58.3				
	180				
α′ (2 to 1)	148 02 12.7				

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

comp 8113

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

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 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	38°	40′	58.83″	TOWER	λ	76°	19′	55.73″
2. ϕ'	38	38	20.21	LIGHT HOUSE	λ'	76	22	33.59
$\Delta\phi$ $(=\phi'-\phi)$	−	2	38.62		$\Delta\lambda$ $(=\lambda'-\lambda)$	+	2	37.86
$\frac{\Delta\phi}{2}$		1	19.31		$\frac{\Delta\lambda}{2}$			
$\phi_m\left(=\phi+\frac{\Delta\phi}{2}\right)$	38	39	29.52					
$\Delta\phi$ (secs.)			158.62		$\Delta\lambda$ (secs.)			157.86

log $\Delta\phi$	2.200 358 n		**log** $\Delta\lambda$	2.198 272	
cor. arc−sin	−		cor. arc−sin	−	
log $\Delta\phi_1$			log $\Delta\lambda_1$		
log cos $\frac{\Delta\lambda}{2}$			**log cos** ϕ_m	9.892 588	
colog B_m	1.489 047		**colog** A_m	1.490 848	
log $\{s_1 \cos\left(\alpha+\frac{\Delta\alpha}{2}\right)\}$	3.689 405	(opposite in sign to $\Delta\phi$)	**log** $\{s_1 \sin\left(\alpha+\frac{\Delta\alpha}{2}\right)\}$	3.581 708	+
			log $\{s_1 \cos\left(\alpha+\frac{\Delta\alpha}{2}\right)\}$	3.689 405	+
log $\Delta\lambda$	2.198 272	3 log $\Delta\lambda$	**log tan** $\left(\alpha+\frac{\Delta\alpha}{2}\right)$	9 892 303	
log sin ϕ_m	9.795 653	log F	$\alpha+\frac{\Delta\alpha}{2}$	37° 58′ 04″	
log sec $\frac{\Delta\phi}{2}$	−	log b	**log sin** $\left(\alpha+\frac{\Delta\alpha}{2}\right)$	9.789 029	
			log cos $\left(\alpha+\frac{\Delta\alpha}{2}\right)$	9 896 723	
log a	1.993 925		**log** s_1	3.792 680	
a	98.6″		cor. arc−sin	+ −	
b	−		log s	3.792 680	
$-\Delta\alpha$ **(secs.)**		98.6″			
$-\frac{\Delta\alpha}{2}$	°	′ 49.3″ +			
$\alpha+\frac{\Delta\alpha}{2}$	37	58 04			
α (1 to 2)	37	58 53			
$\Delta\alpha$	−	1 39			
	180				
α′ (2 to 1)	217	57 14			

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

Comp BNS
✓ by A

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

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 25
Ed. Jan., 1929

11—9121

COMPUTATION OF TRIANGLES

State: MD

NO.	STATION	OBSERVED ANGLE	CORR'N	SPHER'L ANGLE	SPHER'L EXCESS	PLANE ANGLE AND DISTANCE	LOGARITHM
						° ′ ″	
	2-3						4.030 040
	1	THORN				33 28	.258 492
	2	TOWER				123 16 27	9.922 235
	3	WATER TANK				23 15 33	9.596 477
	1-3						4.210 767
	1-2						3.885 009
	2-3						4.046 992
	1	THORN				36.13	228 530
	2	SILO				120 31 01	9.935 245
	3	WATER TANK				23 15 59	9.596 604
	1-3						4.210 767
	1-2						3.872 126
	2-3						3.936 795
	1	THORN				694	.027 895
	2	TOWER				53 57 57	9.907 769
	3	SILO				56 24 03	9.920 356
	1-3						3.872 459
	1-2						3.885 046
	2-3						
	1						
	2						
	3						
	1-3						
	1-2						

Do not write in this margin

cont 843

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

11—0121

COMPUTATION OF TRIANGLES

State: MD.

NO.	STATION	OBSERVED ANGLE	CORR'N	SPHER'L ANGLE	SPHER'L EXCESS	PLANE ANGLE AND DISTANCE	LOGARITHM
	2-3						3.792 680
	1 THORN	45 02					.150 262
	2 LH	118 58 49					9.941 902
	3 TOWER	15 59 11					9.439 978
	1-3						3.884 844
	1-2						3.382 920
	2-3						4.030 040
	1 THORN	33 28					.258 492
	2 TOWER	123 16 59					9.922 190
	3 WT.	23 15 01					9.596 320
	1-3						4.210 722
	1-2						3.884 852
	2-3						4.202 571
	1 THORN	78 30					.008 807
	2 LH	92 57 24					9.999 422
	3 WT	8 32 36					9.171 894
	1-3						4.210 800
	1-2						3.383 272
	2-3						
	1						
	2						
	3						
	1-3						
	1-2						

Do not write in this margin

Comp 3B3

N COMPUTATION, THIRD-ORDER TRIANGULATION

°	′	″								°	′	″
-17	57	14	α	3	TOWER	to 2	LH			37	58	53
18	58	49	3d ∠			&				- 15	59	11
36	56	03 -	α	3		to 1				21	59	42
			Δα									
80	00	00.0								180	00	00.0
			α′	1		to 3						

°	′	″		°	′	″			°	′	″
76	22	33.59	φ	38	40	58.83	3	λ	76	19	55.73
		39 11	Δφ		3	50.68		Δλ		1	58.76
76	21	54.48	φ′	38	37	08.15	1 FIS. "THORN"	λ′	76	21	54.49

°	′	″

garithms	Values in seconds
382 920	
593 052	
509 153	
107 174	
592 299	39.111
don't used.	

	Logarithms	Values in seconds	
s	3.884844		
Cos α	9.967 181		
B	8.510 952		
h	2 362 977	1st term	230.66
s^2	7.7697		
$\sin^2\alpha$	9.1469		
C	1.3081		
	8.3247	2d term	+ .021
h^2	4.7259		
D	2.3816		
	7.1075	3d term	+ .0013
		−Δφ	230.68

°	′	″
½(φ+φ′)		

	Logarithms	Values in seconds
s	3.884 844	
Sin α	9.573 482	
A′	8.509 153	
Sec φ′	.107 174	
Δλ	2.074 653	118.756
Sin ½(φ+φ′)		
−Δα		

11—9362 U. S. GOVERNMENT PRINTING OFFICE: 1929

Comp 813

ENT OF COMMERCE
ND GEODETIC SURVEY
Form 27
l. April, 1929

POSITION COMPUTATION, THIRD-ORDER TRIANGULATION

		°	′	″
TOWER	to 3 SILO	328	00	14.4
	&	+ 53	57	57
	to 1	21	58	11.4
		180	00	00.0
	to 2			

			°	′	″
α	3 TOWER	to 2 SILO	148	02	12.7
3d ∠		&	- 56	21	03
α	3	to 1	91	41	09.7
Δα					
			180	00	00.0
α′	1	to 3			

First Angle of Triangle

	′	″			°	′	″
8	40	58.829	2 TOWER	λ	76	19	55.730
	3	50.827		Δλ		1	58.681
8	37	08.002	1 THORN	λ′	76	21	54.411

	°	′	″		°	′	″
φ	38	37	01.005	3 SILO	λ	76	16	46.377
Δφ	+		07.000		Δλ		5	08.034
φ′	38	37	08.005	1 THORN	λ′	76	21	54.411

Logarithms	Values in seconds
885 046	
967 258	
510 951	
363 255	1st term 230.810
7.7701	
9.1460	
1.3078	
8.2239	2d term + .017
	3d term +
	−Δφ 230.827

	° ′ ″	
	½(φ+φ′)	
	Logarithms	Values in seconds
s	3.885 046	
Sin α	9.573 009	
A′	8.509 153	
Sec φ′	.107 174	
Δλ	2.074 382	118.681
Sin ½(φ+φ′)		
−Δα		

	Logarithms	Values in seconds
s	3.872 459	
Cos α	8.468 650	
B	8.510 956	
h	10.852 065	
s²	7.7449	
Sin² α	9.9996	
C	1.3071	
	9.0516	
h²		
D		

n	
1st term	7.113
2d term	+ .113
3d term	+ —
−Δφ	7.000

	° ′ ″	
	½(φ+φ′)	
	Logarithms	Values in seconds
s	3.872 459	
Sin α	9.999 812	
A′	8.509 153	
Sec φ′	.107 174	
Δλ	2.488 598	308.034
Sin ½(φ+φ′)		
−Δα		

11—9362 U. S. GOVERNMENT PRINTING OFFICE: 1929

Comp BMB

14

Form 567
Rev. March 1935

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

LANDMARKS FOR CHARTS

~~TO BE ADDED TO CHART~~
TO BE DELETED } STRIKE OUT ONE

Baltimore, Md. March 25, 1936

41

I recommend that the following objects which have (*have not*) been inspected from seaward to determine their value as landmarks, be ~~(added to)~~ (*deleted from*) the charts indicated.

The positions given have been checked after listing.

L.W. Swanson
Chief of Party.

GENERAL LOCALITY: Eastern Shore, Chesapeake Bay, Md.

NAME AND DESCRIPTION	POSITION				DATUM	METHOD OF LOCATION	DATE OF LOCATION	HARBOR CHART	INSHORE CHART	OFFSHORE CHART	CHARTS AFFECTED
	LATITUDE		LONGITUDE								
	° ′	D. M. METERS	° ′	D. P. METERS							
Cupola House (Collins House, Red Spire)	38-41	724.9	76-20	159.8	N.A. 1927	Triang.	1909				1225
The house has been destroyed by fire											

This form shall be prepared in accordance with 1934 Field Memorandum, "LANDMARKS FOR CHARTS." The data should be considered for the charts of the area and not by individual field survey sheets. Information under each column heading should be given.

U. S. GOVERNMENT PRINTING OFFICE

Scaled Y.L.K. Checked J.N.H.

March 25, 1941

ine their value as landmarks,

on

Chief of Party.

DATE OF LOCATION	HARBOR CHART	INSHORE CHART	OFFSHORE CHART	CHARTS AFFECTED
March 1941				1225
"				"
"				"
"				"
"				"
"				"
"				"

ARTS." The data should be
umn heading should be given.
Hecker V. M. H.

19 November, 1940

L.W. Swanson,
Chief of Party U.S.C.& G.S.,
307 Detention Building,
Fort McHenry,
Baltimore, Md.

Subject: Positions, various lighted structures.

Reference: (s) Your letter 14 November, 1940

1. In reply to your request, the following is forwarded for your information:

Light List Number	Name of Light
1949	Blackwalnut Cove . Established 1929, original structure
1951	Upper Bar Neck. Destroyed 1940, not yet rebuilt.
1952	Middle Ground Bar. Destroyed 1936, 1940, not yet rebuilt
1953	Broad Creek. Rebuilt 1934, 1936, 1938, position doubtfull
1954	Balls Creek. Established 1930, rebuilt 1938, 9' S.E. of old structure.
1968	Knapps Narrows West Entrance. Established 1930, rebuilt 1936
1969	Hoffman Point. Established 1935.
1970	Back Creek Cut. Established 1935
1971	Knapps Narrows East Entrance. Rebuilt 1936, 1940, position doubtful.
1972	Knapps Narrows East Channel. Rebuilt 1934.
1973	Knapps Narrows Canal. Established 1935.
1974	Poplar Island Narrows. Rebuilt 1934, 1935, 1936, position doubtfull.
1975	Ferry Bay Light (Ferry Cove). Rebuilt 1934, 1935.

2. These lights until recently were very susceptible to destruction by heavy ice during the winter months. In most cases, where lights are destroyed by ice, they are rebuilt as nearly as possible on their charted locations but their position is in general not positive enough for control purposes, since they are usually relocated by means of sextant angles and three-arm protractors. It appears that Blackwalnut Cove Light and Balls Creek Light are the only structures which may be safely used for control purposes.

Lucien J. Ker, Captain (E)
United States Coast Guard
By direction

REVIEW OF AIR PHOTO COMPILATION NO. T 5124

Chief of Party: L.W. Swanson Compiled by: N.L. Kaslow

Project: H.T. 215 Instructions dated: May 13, 1938 June 1, 1938 Aug. 28, 1939

1. The charts of this area have been examined and topographic information necessary to bring the charts up to date is shown on this compilation. (Par. 16a, b, ~~c~~, ~~d~~, e, g and i; 26; and 64)

2. Change in position, or non-existence of wharfs, lights, and other topographic detail of particular importance to navigation which affect the chart, is discussed in the descriptive report. (Par. 26; and 66 g, n)

3. Ground surveys by ~~plane table~~, sextant, or theodolite have been used to supplement the photographic plot where necessary to obtain complete information, and all such surveys are discussed in the descriptive report. (Par. 65; and 66 ~~d~~, e)

~~4.~~ Blue-prints and maps from other sources which were transmitted by the field party contain sufficient control for their application to the charts. (Par. 28)

5. Differences between this compilation and contemporary plane table and hydrographic surveys have been examined and rectified in the field before forwarding the compilations to the office and are discussed in the descriptive report.

No contemporary surveys

6. The control and adjustment of the photo plot are discussed in the descriptive report. Unusual or large adjustments are discussed in detail and limits of the area affected are stated. (Par. 12b; ~~44~~; and 66 c, ~~h~~, i)

7. High water line on marshy and mangrove coast is clear and adequate for chart compilation. (Par. 16a, 43, and ~~44~~)

NOTE: Strike out paragraphs, words or phrases not applicable and modify those requiring it. Paragraph numbers refer to those in the Topographic Manual. Refer also to the pamphlet "Notes on the Compilation of Planimetric Line Maps from Five Lens Air Photographs." M-87

8. The representation of low water lines, reefs, coral reefs and rocks, and legends pertaining to them is satisfactory. (Par. 36, 37, 38, 39, 40, 41)

9. Recoverable objects have been located and described on Form 524 in accordance with circular 30, 1933, circular letter of March 3, 1933, and circular 31, 1934. (Par. 29, 30, and 57)

FORM 524 IS NOT SUBMITTED

10. A list of landmarks was furnished on Form 567 and instructions in the Director's letter of July 16, 1934, Landmarks for Charts, complied with. (Par. 16a, e; and 60)

11. All bridges shown on the compilation are accompanied by a note stating whether fixed or draw, clearance, and width of draw if a draw bridge. Additional information of importance to navigation is given in the descriptive report. (Par. 16c)

12. Geographic names are shown on the overlay tracing. The accepted local usage of new names has been determined and they are listed in the report, together with a general statement as to source of information and a specific statement when advisable. Complete discussion of place names differing from the charts and from the U. S. G. S. Quadrangles is given in the descriptive report, together with reasons for recommendations made. (Par. 64, and ~~66f~~)

13. The geographic datum of the compilation is N.A 1927 and the reference station is correctly noted.

14. Junctions with adjoining compilations have been examined and are in agreement. (Par. 66)

15. The drafting is satisfactory and particular attention has been given the following:

1. Standard symbols authorized by the Board of Surveys and Maps have been used throughout except as noted in the report.

2. The degrees and minutes of Latitude and Longitude are correctly marked.

3. All station points are exactly marked by fine black dots.

4. Closely spaced lines are drawn sharp and clear for printing.

5. Topographic symbols for similar features are of uniform weight.

6. All drawing has been retouched where partially rubbed off.

7. Buildings are drawn with clear straight lines and square corners where such is the case on the ground.

(Par. 34, 35, ~~36~~, ~~37~~, ~~38~~, ~~39~~, 40, 41, 42, 43, ~~44~~, 45, 46, ~~47~~)

16. No additional surveying is recommended at this time.

17. Remarks:

It should be noted that this map drawing is compiled from a single flight of enlarged single lens photographs. Along the line of flight the intersection are necessarily weak and the southern end of

[redacted]

	Remarks.	Decisions
1	Appears on U.S.GS as Barron Neck	386763 U.S.G.B
2		" "
3		386762
4		386763
5		" U.S.G.B
6		"
7		"
8		"
9		"

[redacted]

GEOGRAPHIC NAMES

Survey No. T-5724

Name on Survey	On Chart No. A	On previous survey No. T-5425 B	On U.S. quadrangle Maps SHARPS I. QUAD. 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	
Bar Neck				X						1
Sharps I.										2
Choptank R.										3
Tilghman I										4
Blackwalnut Pt										5
Blackwalnut Cove										6
Fairbank										7
Lower Bar Neck	Pt.									8
Upper Bar Neck	Pt.									9
Dogwood Harbor										10
Tilghman Island	Landing									11
Avalon										12
Tilghman										13
Harris Creek										14
Pawpaw Cove										15
Chesapeake Bay										16
										17
				Names	underlined in red	approved				18
				by L.	Heck on 10	20/4				19
										20
										21
										22
										23
										24
										25
										26
										27

M 234

Division of Charts

Surveys Section

November 28, 1941

Review of Air Photographic Survey T-5724

There is no contemporary hydrographic survey of this area.

Previous Topographic Surveys

T-5425 1/10,000 1935 (Air Photo Survey)

A comparison is made on page 3 of the descriptive report for T-5724 between T-5724 and T-5425. The above mentioned comparison confines itself to shoreline differences, which it discusses adequately.

The interior detail agrees well except on Blackwalnut Point south of latitude 38° 41', where the detail and shoreline on T-5724 are about 15 mm. south of the positions shown on T-5425. As four triangulation positions were established by the field party in 1941 to control T-5724 in this area, T-5724 is considered the more accurate.

T-2494 1/20,000 1900

Sharps Island in 1900 was approximately three times the length of the present island having washed away about 540 meters from its northern end and 400 meters from its southern extremity, the remainder being about 400 meters in a north and south direction and 220 meters in an east and west direction. It is mostly marsh with a small portion of high ground in the center and at the northern tip. From the photograph the water southeast of the island appears to be shallow for a distance of about 340 meters. Apparently there are no remains of the long pier formerly extending southeast of the island or of the hotel building formerly located on the high ground.

T-5724 is adequate to supersede T-5425, T-2494, and all previous topographic surveys which it covers. (For common detail in common areas)

[redacted]

Form 567 was filled out and sent to Nautical Charts Section as chart letter 208 (1941). A duplicate copy is filed at the back of the descriptive report.

Radial Plot

The radial plot is adequately discussed on page 2 of the descriptive report. Each photograph was well controlled and the plot is excellent except for the limitations inherent in a single flight line plot, namely, weakness of radial points near the flight line and the lack of sufficient photographs for more than two cuts at Blackwalnut Point.

Detailing and Field Inspection

The field inspection was good and complete except for the wooded areas in the southern part of Tilghman Island. No field inspection notes could be found in regard to the ty[redacted] of