

5671

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DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
R. S. PATTON, DIRECTOR

DESCRIPTIVE REPORT

Photo
Topographic }
Hydrographic } Sheet No. T 5671

State FLORIDA

LOCALITY

ST. JOHNS RIVER

Mill Cove

1936
Date of photos Nov 1933.

CHIEF OF PARTY

Hubert A. Paton

U. S. GOVERNMENT PRINTING OFFICE: 1934

5671

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO.

PHOTO
TOPOGRAPHIC TITLE SHEET **T5671**

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. 2

REGISTER NO. **T 5671**

State FLORIDA

General locality ST. JOHNS RIVER

Locality Mill Cove

Scale 1 : 10 000 Date of ^{photos} Survey Nov. 27 & Dec. 19, 19 33
Date of Field Inspection: March, 1935. Compilation Completed May, 1936
Vessel U. S. Army Air Corps Camera: Single lens type K-3b

Chief of party Hubert A. Paton

Surveyed by see data sheet in descriptive report.

Inked by W. H. Burwell

Heights in feet above _____ to ground to tops of trees

Contour, Approximate contour, Form line interval _____ feet

Instructions dated March 4, 1935, 19____

Remarks: Original 1:20 000 scale photos enlarged to 1:10 000 scale
for compilation. Sheet printed by photo-lithographic process.

NOTES ON COMPILATION SHEET

FIELD NO. 2 Register No. T 5671

PHOTOS: Single lens Nos. M 238 to M 243 incl., M 255 to M 259 incl.,
and M 277 to M 280 incl.

DATE AND TIME OF PHOTOS: M 238 to M243, Nov. 27, 1933, 12:25 P.M.
M255 to M259, Nov. 27, 1933, 1:00 P.M.
M 277 to M280, Dec. 19, 1933, 10:00 A.M.

BY * *W. H. Burwell* DATE
Scale Factor of Photos: Ben Benson and W. H. Burwell 4/6/35
(Scale factor - 1.00)

PROJECTION: J. L. Smith 4/25/35

PROJECTION CHECKED: Ben Benson 4/27/35

CONTROL PLOTTED: R. J. Moore, Jr., & *W. H. Burwell* 4/30/35

Control checked: V. L. Riehl & R. J. Moore, Jr. 5/8/35

TOPOGRAPHY TRANSFERRED: *W. H. Burwell* W. H. Burwell 11/12/35

TOPOGRAPHY CHECKED: T. M. Price, Jr. 11/12/35

SMOOTH RADIAL PLOT: T. M. Price, Jr. 11/10/35 ✓

DETAIL INKED: *W. H. Burwell* W. H. Burwell 5/7/35

AREA OF DETAIL INKED: 25.1 square statute miles

LENGTH OF SHORE LINE OVER 200 m. 28 statute miles

LENGTH OF SHORE LINE UNDER 200 m. 75 statute miles (approx)

GENERAL LOCATION: ST. JOHNS RIVER

LOCATION: *Mill Cove*

DATUM STATION: SUMMIT, 1932 Latitude 30°23'16.432" 512.1 meters
(N.A. 1927 datum). Longitude 81 29 23.419 625.2
(office adjusted position) ✓

*Where signatures are not shown, the employees are no longer with the service.

COMPILER'S REPORT

for

PHOTO TOPOGRAPHIC SHEET FIELD NO. 2 REGISTER NO. T 5671

GENERAL INFORMATION:

This sheet was compiled from photographs taken by the U. S. Army Air Corps using a single lens camera, Type K-3b. The photographs used were M 238 to M 243 (west to east) taken Nov. 27, 1933 at 12:23 P. M., M 255 to M 259 (east to west) taken Nov. 27, 1933 at 1:00 P.M. and M 277 to M 280 (southeast to northwest) taken Dec. 19, 1933 at 10:00 A.M.

The photographs were flown on a 1:20,000 scale and most of the field inspection was done on prints of this scale in March, 1935. Enlargements were later made to 1:10,000 scale, for the smooth plot and tracing.

Tide Tables show that the tide was about quarter high at St. Johns Bluff, and somewhat lower than this at Coon Point when both of the east-west flights were made. However, when the southeast northwest flight was made, the tide at Dame Point, north of Mill Cove, was nearly high. For this reason, the mean high water line shows very clearly on the December 19th photos. It is understood that the direction and strength of the wind affects the heights of water to some extent, but notes made by the field inspection party indicates close agreement with the predicted water level at the time the photographs were taken.

CONTROL:

Sources:

Triangulation executed in 1926, 1932, 1933, 1934 and former triangulation which relocated in these years all recoverable stations.

Station Palmetto 1855, 1909 (Appendix 6, Report for 1911) was put on the North American Datum by applying a correction as determined from the two values of nearby stations. Its position checked within plottable accuracy.

Recoverable H. and T. stations on G. C. Sheets X and Y. (T-6487b).

Two theodolite three point fixes taken by this party:

Dog: Lat. $30^{\circ} 21' 11.846''$
Long. 81 31 50.426

Fish: Lat. 30 21 59.670
Long. 81 31 08.726

These stations are recoverable and have been described on Form 524.

ERRORS:

When the plot was completed all control that had definite or strong ties, or that was visible without ties, fitted the plot satisfactorily. This result, however, entailed con-

siderable amount of work in the elimination of those stations which had been originally plotted on the enlarged photographs from insufficient ties in the hope that they could be used.

Stations St. Johns U.S.E. 1908, 1932, B. M. #1 U.S.E. 1926, Fort 1905, 1933, and Summit 1932 are grouped closely together on a high heavily wooded bluff. These stations as located in the field did not check the plot, where-as nearby beacons which could be seen on the photos did check nicely. It was concluded these four stations could not be located accurately on account of the physical conditions.

Remarks.

The control had been located by the field inspection party on 1:20,000 scale photos. In most cases the ties were sufficiently strong and definite enough to make the location accurately on the 1:10,000 enlargements. It was necessary, however, to carry the plot from Sheet No. 1, almost through Sheet No. 3 and by trial and error to eliminate some of the worthless stations. Although the control on the photos M 238 to M 243 and M 254 to 259 was plentiful, it was not always well distributed, being concentrated along the river, and very strong fixes were scarce.

Photos M 277 to M 280 were weakly and inadequately controlled. It was considerably strengthened by the addition of the two 3-point-fix stations Dog and Fish.

Stations Beacon No. 30, 1926 and Beacon No. 6 have been destroyed and so do not appear on this ^{compilation} sheet. However, they existed when the photos were made and therefore were used for control.

A good agreement was obtained with those recoverable H.&T. stations transferred from the G. C. Sheets that could be accurately located on the photos. They were as follows:

G. C. Sheet X - Oak, Little Marsh I, Channel Rear Range Bn.,
St. Johns Bluff Beacon No. 1.

G. C. Sheet Y - Ten, Reed, Marion 2 U.S.E., Mill.

COMPILATION:

Method - The usual radial line method of plotting from single lens photographs was used in the ~~compilation of this sheet~~ compilation. The flights were plotted in the order of their relative control strength, the northernmost flight first, the middle flight second and the southernmost last. The latter has only four photos which appear on this sheet. It is the beginning of the flight, inadequately controlled, and yet was important because it is the only flight showing the shore of Mill Cove. Because of high trees and lack of natural objects, it was impossible to establish the necessary supplemental control points without too much expense. With the few radial points obtained from this flight, together with the two 3-point-fixes obtained in Mill Cove, and the common radial points from the adjacent flight which overlaps it slightly on the north, a plot was made which is believed to be within the required accuracy for shore line delineation and detail adjacent thereto. But this degree of accuracy

probably does not extend to the area southeast of Mill Cove. However, since it was considered desirable to show as much of the inland topography as was obtainable from the only photo that covered this area (M 277), the compiler used all the 2 cut intersections that could be obtained, and devised the following method for obtaining two control points in an area not overlapped by any other photos:

From two pairs of radial ~~radial~~ or control points on the photo, lines were drawn. These points were selected so that the lines, extended, would intersect in the area where a control point was desired. These lines are indicated on Photo M 277 by red dashed lines and the intersections, by a blue triangle in a red circle. The same thing was done with the same pairs of plotted points on the sheet. Then, it was found that the radial lines through these points on the photo checked exactly with the corresponding points on the sheet, in the apparent proportional displacement of position shown by similar radial points. This is frankly an experiment, tried with the consent of the Chief of Party, and based on the assumption that the photo is close to scale and free from tilt, as is apparently the case. The compiler is not prepared to submit further proof of the accuracy of this method, or to vouch for its reliability, but since there are few features of importance for tracing in this area, save those of a cultural nature, it was felt that such a procedure was allowable in this case. A blue line, on the back of the sheet, indicated the limits of the usual accuracy.

(Comment by the Chief of Party.- This method is believed to be a good graphical means of providing for a difference in scale between the photos and the sheet. It would not correct for errors due to relief and tilt. However both of these errors were very small in this case, and the use of this method was allowable.)

The plots of the other flights ~~on the sheet~~ were brought forward from strong fixes on sheet T5672 and were carried to strong fixes on sheet T 5670.

ADJUSTMENT OF PLOT:

The control is scarcest on the extreme north and south sides of the ~~sheet~~ ^{compilation} and since intersections in these portions of the ~~sheet~~ are usually slim, they represent the weaker portion of the plot, but except for the flight M277 to M 280, it is probably sufficiently strong because third cuts, where they could be obtained checked the intersection. All through flights fitted well together and intersections obtained were very good. No unusual adjustments were necessary, except as explained for photos M 277 to M 280. None of the photos showed large tilt or scale difference except M 254 to M259 and these were well within the limits allowable.

GENERAL DESCRIPTION OF TOPOGRAPHY AND INTERPRETATION:

compilation Since the field inspection and the preparation of the ~~sheet~~ was carried out by the same photo-compilation party, and in order to avoid unnecessary duplication of work, no separate field inspection report has been prepared for this vicinity, but instead, the required information will be contained in the body of the report. Personnel of the field inspection party are no longer with the service and the following information has been obtained from the field inspection notes on the photos and by recent visits to the locality. Also, since many of the topographical and other features of the area represented are identical in nature to those represented on Sheet No. 1, and discussed in the descriptive report for ~~that sheet~~, reference to such cases will be made as they occur in this report, and needless duplication will be avoided.

SHORELINE, ST. JOHNS RIVER AND CREEKS.

T-6487a. T-6487b

The nature of the river shore line is described in the descriptive reports to accompany G. C. Sheets X and Y. The comment made in the descriptive report for Sheet No. 1, regarding interpretation of shore line from photos, apply with equal force to all shore line on this ~~sheet~~, with the exception of photos M 277 to M 280 which were taken at practically high water and the shore line was obtained very easily. There was no occasion to use a secondary high water line and the shoal areas are shown in the usual way, as determined from their appearance on the photos.

The legend and note, "probably drainage", is indicated where a stream runs through dense woods. It is the approximate course of the stream, as determined by a stereoscopic examination, at which time the line was put on the photos. The streams are small, unnavigable, and form a natural drainage of the areas through which they pass.

This note will not appear on the compilation. The drainage lines are indicated by symbol. Sam.

MARSHES:

The same remarks regarding the characteristics of the marshes described in the report for Sheet No. 1 apply to most of those appearing on this ~~sheet~~. Between Fulton and Coon Point, the marsh changes to sand flats, gradually increasing in elevation and leaving scattered growths of palm and myrtle.

HUMMOCKS AND SPOIL BANKS:

The wooded hummocks appearing in the northern portion of this ~~sheet~~ are very similar to those described in the report for Sheet No. 1. The portion of Great Marsh Island shown, Little Marsh Island, and the LeBaron, Long, Vicks, Alligator Island group are composed largely of sand dredged from the river. The ~~four~~ *three* last mentioned are not separated by any natural boundaries.

Long Island has not been approved.

BLUFFS:

Most prominent is St. Johns Bluff, appearing along a portion of the south shore of the river, at its intersection with a small creek. At this point the large expanses of marsh cease, and the land becomes definitely established. To the west, the marsh appears in diminishing areas, and around Mill Cove, there is only a relatively narrow fringe. At the point of

the bluff, the land rises abruptly from the waters edge, to a height of about 60 feet. Surmounting this, there are several sand hills, 15 to 20 feet high. The congested condition at this point on the sheet, resulting from the density of triangulation station and tree symbols, render it impossible to properly depict the features as they actually occur. The height and gradient of the bluff gradually decreases in both directions from the point, and as this occurs, the crest becomes less sharply defined, and is obscured by vegetation. Its approximate position was verified in the field and transferred under the stereoscope, and the bluff symbol used, beginning at the points where the ground elevation began to increase. Inland from the bluff the land is of comparative high relief for this region.

It was noticed in the field, that wherever a sharp bend occurs in a stream not bordered by marsh, there is usually a low bluff, 6 to 8 feet high, at the concave portion of the bend.

WOODS:

T-5672.
The wooded areas appearing on this sheet are very similiar to those shown on Sheet No. 1, and reference is made to the report of that ~~sheet~~ ^{compilation}. In the more open areas, the symbol for palmetto has been liberally used and the conventional tree symbols made some what smaller, to indicate second growth pine, oak and brush. In the south-eastern part of the sheet, the woods are shown as growing in a series of roughly parallel depressions.

These are of a low and swampy nature and so the symbol for cypress swamps was employed. The vegetation is mixed, but a good portion of it is cypress. It was noted on a recent visit to this general locality that in the $2\frac{1}{2}$ years that have elapsed since the photos were taken, there has been a considerable increase in the growth of the woods, and much of the country is now not as open as it appears on the photos. *? This is probably more a difference between the ground view and air view. Bgg.*

PONDS AND SWAMPS.

T-5672
The same conditions regarding intermittent ponds and fresh marshes discussed in the report for Sheet No. 1, exist in this area where they occur. The fresh marsh symbol was sparingly used; where such features occurred in cleared or open areas, it was shown as an intermittent pond, and when it appeared in or near woods, it was indicated by the swamp symbol. The large pond appearing inland, east of Mill Cove, was shown thus, - it no longer contains water permanently.

ROADS:

The same general remarks on Roads in the report for Sheet No. 1 apply here; the only paved roads are Heckscher Drive and a small portion of the road to Gilmore, running off the sheet to the west, south of Mill Cove. Both are asphalt paved.

The last mentioned runs to St. Johns Bluff and because it is the most important road on this part of the ~~sheet~~^{compilation}, it is shown with the same width. Actually, from the point where the pavement ends, to the bluff, it is a country dirt road, barely passable, though it has at some time been ditched, graded and a 100 ft. right-of-way cleared. But at present, only portions of it appear to be in use; where it crosses the creeks south of Mill Cove, bridges have not been built, and the road running roughly parallel to it is used. A portion of it follows an old railway bed along here. Elsewhere, small portions of this bed is used as a road, but for the most part, it has become so leveled and overgrown as to be practically indistinguishable on the ground. Apparently, when the photos were made, it was much more distinct than at present, and for this reason, its position is indicated by the usual dashed line. A considerably greater number of country dirt roads are shown with the double dashed lines, rather than the ~~single dashed line~~^{which}, denoting trails. ~~This was done because,~~ *Although* ~~the narrow and ungraded,~~ they are generally passable by motor, and appear to be used in preference to the aforementioned main road. Others have been abandoned, or ~~are~~ seldom used, and ~~are~~ *have been* shown with the ~~usual~~ trail symbol.

JETTIES AND TRAINING WALLS:

The jetties and training walls on this ~~sheet~~^{compilation} are identical in structure to those described in the report for Sheet No. 1. They are labelled on the overlay sheet where they appear; those shown with a single heavy line are from 6 to 12 feet wide and mean high water level, varying in height from awash to 2 to 3 feet high. The training walls on Vicks and Alligator Islands have been covered with sand, dredged from the channel. *T-5672.*

Only such portions of the walls and jetties were drawn as could be seen on the photos. No doubt they are continuous but are below mean low water in places.

INHABITED LOCALITIES:

At Browns and Clapboard Creeks, there are fishing camps with a few residents. At Fulton, there is a small permanent settlement, a church, and several buildings in ruins, ruins of refining tanks and piers, and two piers in good condition. On St. Johns Bluff, there are ruins of an old fort which are now overgrown with vegetation and are not visible on the photos. The old gun emplacements were located on G. C. Sheet X and transferred to this ~~sheet~~^{compilation.} *(T-6487a).*

In the lower central portion of the ~~sheet~~^{compilation}, east of Mill Cove, appears a small rural settlement, apparently engaged in agricultural activities of a limited nature. A similar settlement appears at the western limits of ~~the sheet~~, bordering Mill Cove ~~at the south.~~

BUILDINGS:

The same remarks regarding representation of buildings made in the report for Sheet No. 1 apply to this ~~sheet~~ ^{compilation}. Buildings that are abandoned, but still standing are indicated in the customary way, while those in ruins from disintegration or fire, are shown by means of the symbol for ruins.

BRIDGES:

Waterway	Location miles above mouth	Clearance in feet(closed)			Measured by
		Type	M.H.W.	Horizontal	
Clapboard Cr.	0.0	* Bascule	9.0	20	Field Party
Browns Creek	0.0	Fixed wood	9.0	30	U.S.E.D.
Jones Creek	0.25	Fixed wood	2.0	8	Field Party
Ginhouse Cr.	0.3	Fixed wood	2.0	8	Field Party
St. Johns Cr.	0.0	Wood (foot)	2.0	6	Field Party

All of these bridges are highway bridges except the last named, which is a foot bridge across a small creek and leads to a stairway up the bluff. *The bascule bridge over Clapboard Creek is in effect a fixed bridge, as the operating machinery has been removed. The Clearance for Browns Creek bridge was obtained from the War Departments published list of bridges.

INFORMATION FROM OTHER SOURCES:

Graphic Control Sheet: The same remarks regarding the use of these sheets are contained in the report for Sheet No. ^{T-5672}. (1) except that in this case Sheets X and Y were used.

U.S.E. surveys, 1934, 1:6000 scale, Jacksonville to the Ocean. Portions of the shore line of Le Baron, ~~Long~~, Vicks, Alligator Island were transferred from the above source to the compilation, without regard to its appearance on the photos. There have been extensive shore line changes due to dredging operations in this vicinity since the photos were taken and it is believed that the later surveys are more nearly correct. The method of transfer is described in the report of Sheet No. 1, and the portions taken were as follows:

Shore line from	Lat.	Long.	to	Lat.	Long.
Le Baron I.	30°23.9'	81°30.7'		30°24.3'	81°31.0'
Long I. *	30 24.0	81 31.2		30 24.3	81 31.5
Vicks I.	30 24.4	81 31.8		30 24.3	81 32.5

Also a small portion at the tip of Le Baron I.

*. Name not approved.

Field Party Measurements: The dirt road north at

Lat. 30°21.0' Long. 81°31.4' was completed since the photos were taken and is shown according to a sketch made on the pictures by the field party, without measurements. A recent trip to this vicinity confirmed the location of this road.

CONFLICTING NAMES:

Le Barons Island is shown on Charts No. 577. On Chart No. 1243 and the U. S. G. S. Quadrangle map it is shown as Le Baron Island. The U. S. E. maps use the latter form, and it seems to be the one in most common use and is therefore recommended. See Descriptive Report of Hydrographic Sheet No. *H-6126*. (21) for a further discussion of names.

NEW NAMES:

The following new names are offered to designate localities and features not hitherto named on our charts.

St. Johns Creek. The small stream entering the St. Johns River at St. Johns Bluff. So indicated on U. S. E. D. Sheet, Nomenclature of Cuts and Lighted Ranges, Jacksonville to the Ocean, April 1933 (1:25 000)

Back River. See descriptive report G. C. Sheet Y. This river is shown as Shipyard Reach (Back River) on U. S. E. D. Sheet No. 4, 1934, but Back River is the only term used by their field men. *T-64876.*

Cosmo. This name designates the small rural settlement appearing in the lower central portion of the sheet, east of Mill Cove. This name was obtained in the field, from local inhabitants.

San Carlos Creek: The northeast branch of San Carlos Creek has changed considerably in recent years and now flows into Browns Creek and now has no name. The western branch which falls on Sheet No. 3 retains the name. All authorities agree on this name and the Light List is in error with its St. Charles. *?*

JUNCTION WITH ADJOINING SHEETS:

This ~~sheet~~ *compilation.* is joined on the north by Sheet T 5131 (~~S.B.G.~~) 1:20,000. An enlargement to 1:10,000 scale was prepared by the office with a projector for the use of the party in making a comparison. Due possibly to the great difference in scale of *between* this ~~sheet~~ *compilation*, the type of photographs, interpretation in compilation and imperfections of reproduction, there are considerable differences between the two ~~sheets~~ *compilations*. The tracing was extended northward as far as possible to include complete stream systems, and to form a satisfactory junction. Authority to do this was contained in the Director's letter of April 19, 1935, reference number 26 AA 1990 (20). Radial points in this vicinity, though near the edge of the photos, are strong enough to insure accurate tracing.

The junction with T 5131 (1:20 000) will be corrected on T 5131 at the next printing

On the east this sheet joins T 5672 (Field No.1), and on the west with T 5670 (Field No.3). Both junctions were satisfactory.

COMPARISON WITH OTHER SURVEYS:

^{T-6487a T-6487b}
G. C. Sheets X and Y. In cases of marked disagreement of shore line, the plane table sheets delineation was accepted as correct, as they were made more recent and the portions affected are subject to change and difficult to delineate on the photos.

^{T-5672}
U.S.E. Surveys, 1934, Sheets 4, 5, and 6. A complete discussion was made in the report for Sheet No. 1, and is not repeated here as the conditions are practically identical.

^{T-5671}
It was noted that the training wall along the shore at St. Johns Bluff did not extend clear to Shipyard Creek, but stopped at the point indicated on the sheet. Also that the Training Wall Rear Range Light (Triangulation Station Beacon No. 20, 1926) is shown on the wrong side of the road.

^{T-5672}
U.S.G.S. Quadrangle maps "Mayport" and "Jacksonville". See descriptive report for Sheet No. 1 for complete discussion. It is noted that the region shown on the U. S. G. S. as fresh marsh appearing in the southeast portion of the sheet, consists mostly of swamps, overgrown with dense woods.

Chart No. 577, (issued October 1935). The agreement as a whole is remarkably good. All features not in agreement have been examined and it is recommended that they be changed as necessary to agree with the compilation, as discussed below: The difference in roads and houses, and the new features that occur on the compilation are too numerous to itemize. A check on the shore line and prominent objects now on the chart reveal the following differences,-

1. Hatchures for St. Johns Bluff not shown on the chart. (*contours shown instead*)
2. Road to St. Johns Bluff not shown.
3. Roads around Fulton have been changed.
4. "Gables" note at Fulton should be removed. (Reported previously)
5. Lookout Tower at Clapboard Creek should be shown.
6. Marsh extends farther inland at Coon Point.
7. Large pond east of Mill Cove is now a fresh water marsh.
8. No bluffs should be shown between Jones and Ginhouse Creeks.
9. Bridge at Clapboard Creek no longer operated as bascule.
10. Small piers at St. Johns Bluff; between St. Johns Bluff and Fulton,; on the southwest shore of Mill Cove; at the entrance to Clapboard and Browns Creeks; all should be shown.
11. There should be a wreck shown in the bight south of Cedar Point Creek.
12. There have been changes in the marsh line in Cedar Point, Clapboard and Browns Creeks.
13. There have been considerable changes in the shoreline of the Le Baron, ~~Long~~, Vicks, Alligator Island group as a result of dredging.

Other differences are believed to be due to the necessity for generalization and omission of fine detail on the smaller scale of the chart.

Chart No. 1111 - Detailed comparison unfeasible, due to the great difference of scale.

Chart No. 1243.- Items under Chart No. 577 apply. The roads and general topography south of the St. Johns River are in better agreement with this compilation than Chart No. 577.

COMPARISON WITH DESCRIPTION OF STATIONS.

(T-5672).
See report of Sheet No. 1. The descriptions of stations St. Johns U. S. E. 1908, 1932 and Summit 1932 given in No. 54, Description, Brunswick, Ga., to Jacksonville, Fla. appear to be somewhat in error, with regard to distances and directions to nearby objects. St. John U. S. E. is north-north-west of the highest point, instead of 250 yards west of it. Regarding Summit it appears that directions were confused, instead of the sand hill upon which it is built being 100 feet west of the road, and 40 feet east of the bluff, the reverse directions appear to be the case. *Referred to Goodway 9/14/36*

Station Ridge is described as being on the edge of the bluff, whereas it is shown as being some distance back from it. This is due to the fact that at this point it is heavily wooded, and on this sheet only the sheer portion of the bluff is represented with hatchures. The station was not located on the photos by the field inspection party, nor was it used for control in the radial plot. *Corrected*

Stations Beacon No. 20 and Cove U. S. E. were described as being in the water, but are now on dry land.

LANDMARKS.

No additional landmarks are submitted. See report for Sheet No. 1. (T-5672.).

RECOVERABLE: OBJECTS:

(T-5672).
See report for Sheet No. 1. The two 3-point-fix station, Dog and Fish, were discussed under CONTROL in this report and descriptions are being submitted on Form No. 524.

RECOMMENDATION FOR FURTHER SURVEYS.

x See opposite page.
The compilation of this sheet is believed to have a probable error of 2 to 3 meters in the well defined detail of importance for charting, and of 3 to 5 meters for other detail.

To the best of my knowledge this ^{compilation} sheet is complete in all detail of importance for charting purposes as existed through the fall of 1933, and for areas covered by the U. S. E. surveys to the fall of 1934. Changes from that time to the present, which have not been applied ~~to this sheet~~, are believed to be not of sufficient importance to require additional surveys.

Respectfully submitted,

Hubert A. Paton
Hubert A. Paton, Lieut. C&GS
Chief of Party.

W. H. Burwell
W. H. Burwell, Draftsman C&GS

Remarks

Decisions

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GEOGRAPHIC NAMES

Survey No. T 5671

1 (400)

Name on Survey

	A	B	C	D	E	F	G	H	I	J
	On Chart 577 No. 1243	On previous survey No. 1243	On U. S. quadrangle Maps	From local information	On local Maps	P. O. Guide or Map	Rand McNally Atlas	U. S. Light List	T 5671	
✓ Browns Island *	✓	✓	✓	✓	✓	✓		✓	1	
✓ Browns Creek *	✓	✓	✓	✓	✓	✓		✓	2	
✓ Roundtop *	✓	✓	✓	✓	✓	✓		✓	3	
✓ Pelates Island *	✓	✓	✓	✓	✓	✓		✓	4	
✓ Clapboard Creek *	✓	✓	✓	✓	✓	✓		✓	5	
✓ Vicks Island. *	✓	✓	✓	✓	✓	✓		✓	6	
✓ Alligator Island *	✓	✓	✓	✓	✓	✓		✓	7	
✓ Little Clapboard Cr. *	✓	✓	✓	✓	✓	✓		✓	8	
✓ Cedar Point Cr. *	✓	✓	✓	✓	✓	✓		✓	9	
✓ Hannah Mills Cr. *	✓	✓	✓	✓	✓	✓		✓	10	
✓ Leon Point *	✓	✓	✓	✓	✓	✓		✓	11	
✓ Back River *	✓	✓	✓	✓	✓	✓		✓	12	
✓ Le Baron Island *	✓	✓	✓	✓	✓	✓		✓	13	
✓ Little Marsh Island *	✓	✓	✓	✓	✓	✓		✓	14	
✓ Heckscher Drive *	✓	✓	✓	✓	✓	✓		✓	15	
✓ St. Johns River *	✓	✓	✓	✓	✓	✓	✓	✓	16	
✓ Alligator Creek *	✓	✓	✓	✓	✓	✓		✓	17	
✓ Shipyard Creek *	✓	✓	✓	✓	✓	✓		✓	18	
✓ Reed Island *	✓	✓	✓	✓	✓	✓		✓	19	
✓ St. Johns Bluff. *	✓	✓	✓	✓	✓	✓		✓	20	
✓ St. Johns Creek *	✓	✓	✓	✓	✓	✓		✓	21	
✓ Colorinda Creek *	✓	✓	✓	✓	✓	✓		✓	22	
✓ Bird Island *	✓	✓	✓	✓	✓	✓		✓	23	
✓ Live Oak Creek *	✓	✓	✓	✓	✓	✓		✓	24	
✓ Mill Cove *	✓	✓	✓	✓	✓	✓		✓	25	
✓ Walton (over) *	✓	✓	✓	✓	✓	✓		✓	26	
									27	

Names underlined in red approved
by [signature] on 9/9/36

Remarks

Decisions

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GEOGRAPHIC NAMES

Survey No. T5671

2 (two)

Name on Survey

	A	B	C	D	E	F	G	H	K	T5671
<u>Jones Creek</u> *			✓	✓	✓					1
<u>Ginhouse Creek</u> *			✓	✓	✓					2
<u>Cowhead Creek</u> *			✓		✓					3
<u>Cosmo.</u>				✓	✓					* 4
<u>Great Marsh Island</u> *		✓	✓	✓	✓					5
<u>Radcliffe Island</u> *		✓	✓		✓					6
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Names underlined in red approved
by E.R.D. on 9/9/26

Geodetic positions from transverse Mercator coordinates

✓

State

Fla. (East)

Station

$x = 330,000$

$y = 2,185,000$

x	330,000	log S_g	5.23044412
C	500	log (1200/3937)	9.48401583
$x' (=x-C)$	-170,000	log (1/R)	2555
$x'^3/(6\rho_o^2)_g$	-1.88	log S_m	4.71448550
S_g	-169,998.12	cor. arc to sine	-476
		log S_1	4.71448074
log S_m^2	9.428971	log A	8.50935114
log C	1.172887	log sec ϕ	0.06398100
log $\Delta\phi$	0.601858	log $\Delta\lambda_1$	3.28781288
		cor. sine to arc	+640
y	2,185,000	log $\Delta\lambda$	3.28781928
ϕ' (by interpolation)	30° 20' 38".9385	$\Delta\lambda$	1940".0784
$\Delta\phi$	-3.9981	λ (central mer.)	81° 00' "
ϕ	30° 20' 34".940	$\Delta\lambda$	+32 20.078
		λ	81° 32' 20.078
Sec. in m.	1075.9	Sec. in m.	536.28

$\begin{cases} 1847.6 & 1844.4 \\ 1602.5 & 1599.8 \end{cases}$

Station

$x = 350,000$

$y = 2,185,000$

x	350,000	log S_g	5.17608752
C	500	log (1200/3937)	9.48401583
$x' (=x-C)$	-150,000	log (1/R)	2555
$x'^3/(6\rho_o^2)_g$	-1.29	log S_m	4.66012890
S_g	-149,998.71	cor. arc to sine	-371
		log S_1	4.66012519
log S_m^2	9.320258	log A	8.50935114
log C	1.172887	log sec ϕ	0.06398209
log $\Delta\phi$	0.493145	log $\Delta\lambda_1$	3.23345842
		cor. sine to arc	+499
y	2,185,000	log $\Delta\lambda$	3.23346341
ϕ' (by interpolation)	30° 20' 38".9385	$\Delta\lambda$	1711".8409
$\Delta\phi$	-3.1128	λ (central mer.)	81° 00' "
ϕ	30° 20' 35".826	$\Delta\lambda$	+28 31.841
		λ	81° 28' 31.841
Sec. in m.	1103.1	Sec. in m.	850.47

$\begin{cases} 1847.6 \\ 1602.5 \end{cases}$ d

549.0 (over) (M-29)

Explanation of form:

$$x' = x - C$$

$$S_g = x' - \frac{x'^3}{(6\phi_o^2)_g}$$

$$S_m = \frac{1}{R} \left(\frac{1200}{3937} \right) S_g$$

R = scale reduction factor

ϕ' is interpolated from table of y

$$\Delta\phi = C S_m^2$$

$$\phi = \phi' - \Delta\phi$$

$$\Delta\lambda_1 = S_1 A \sec \phi$$

$$\log S_1 = \log S_m - \text{cor. arc to sine}$$

$$\log \Delta\lambda = \log \Delta\lambda_1 + \text{cor. arc to sine}$$

$$\lambda = \lambda(\text{central mer.}) - \Delta\lambda$$

Geodetic positions from transverse Mercator coordinates

State Fla. (East)

Station $x = 340,000$
 $y = 2,200,000$

x	340,000	log S_g	5.20411572
C	500	log (1200/3937)	9.48401583
$x' (=x-C)$	-160,000	log (1/R)	2555
$x'^3/(6\rho_o^2)_g$	-1.57	log S_m	4.68815710
S_g	-159,998.43	cor. arc to sine	-422
		log S_1	4.68815288
log S_m^2	9.376314	log A	8.50935022
log C	1.173600	log sec ϕ	0.06416471
log $\Delta\phi$	0.549914	log $\Delta\lambda_1$	3.26166781
		cor. sine to arc	+568
y	2,200,000	log $\Delta\lambda$	3.26167349
ϕ' (by interpolation)	30° 23' 07".4230	$\Delta\lambda$	1826."7263
$\Delta\phi$	-3.5474	λ (central mer.)	81° 00' "
ϕ	30° 23' 03".876	$\Delta\lambda$	+30 26.726
		λ	81° 30' 26.726
SEC in m.	119.3		713.55

$\left\{ \begin{array}{ll} 1847.6 & 119.1 \\ 1601.9 & 1599.1 \end{array} \right.$

Station

x		log S_g	
C		log (1200/3937)	9.48401583
$x' (=x-C)$		log (1/R)	
$x'^3/(6\rho_o^2)_g$	-	log S_m	
S_g		cor. arc to sine	-
		log S_1	
log S_m^2		log A	
log C		log sec ϕ	
log $\Delta\phi$		log $\Delta\lambda_1$	
		cor. sine to arc	+
y		log $\Delta\lambda$	
ϕ' (by interpolation)	° ' "	$\Delta\lambda$	"
$\Delta\phi$	-	λ (central mer.)	° ' "
ϕ		$\Delta\lambda$	
		λ	

Explanation of form:

$$x' = x - C$$

$$S_g = x' - \frac{x'^3}{(6\rho_0^2)_g}$$

$$S_m = \frac{1}{R} \left(\frac{1200}{3937} \right) S_g$$

R = scale reduction factor

ϕ' is interpolated from table of y

$$\Delta\phi = C S_m^2$$

$$\phi = \phi' - \Delta\phi$$

$$\Delta\lambda_1 = S_1 A \sec \phi$$

$$\log S_1 = \log S_m - \text{cor. arc to sine}$$

$$\log \Delta\lambda = \log \Delta\lambda_1 + \text{cor. arc to sine}$$

$$\lambda = \lambda(\text{central mer.}) - \Delta\lambda$$

Geodetic positions from transverse Mercator coordinates

State Fla. (East) Station X = 330,000
Y = 2,215,000

x	330,000	log S _g	5.23044412
C	500	log (1200/3937)	9.48401583
x' (=x-C)	-170,000	log (1/R)	2555
x' ³ /(6ρ ₀ ²) _g	-1.88	log S _m	4.71448550
S _g	-169,998.12	cor. arc to sine	-476
		log S ₁	4.71448074
log S _m ²	9.428971	log A	8.50934929
log C	1.174312	log sec φ	0.06434759
log Δφ	0.603283	log Δλ ₁	3.28817762
		cor. sine to arc	+641
y	2,215,000	log Δλ	3.28818403
φ' (by interpolation)	30° 25' 35".9066	Δλ	1941".7085
Δφ	-4.0113	λ (central mer.)	81° 00' "
φ	30° 25' 31".895	Δλ	+32 21.708
	960.4	λ	81° 32' 21".708
sec in m.	982.1		579.3
			575.5

{ 1847.6
1601.2 1598.5

Station X = 350,000
Y = 2,215,000

x	350,000	log S _g	5.17608752
C	500	log (1200/3937)	9.48401583
x' (=x-C)	-150,000	log (1/R)	2555
x' ³ /(6ρ ₀ ²) _g	-1.29	log S _m	4.66012890
S _g	-149,998.71	cor. arc to sine	-371
		log S ₁	4.66012519
log S _m ²	9.320258	log A	8.50934929
log C	1.174312	log sec φ	0.06434869
log Δφ	0.494570	log Δλ ₁	3.23382317
		cor. sine to arc	+499
y	2,215,000	log Δλ	3.23382816
φ' (by interpolation)	30° 25' 35".9066	Δλ	1713".2793
Δφ	-3.1230	λ (central mer.)	81° 00' "
φ	30° 25' 32".784	Δλ	+28 33.279
		λ	81° 28' 33".279
sec in m.	1009.5	sec in meters.	888.1

{ 1847.6 1007.8
1601.2

886.6 (over) (M-29)

Explanation of form:

$$x' = x - C$$

$$S_g = x' - \frac{x'^3}{(6\rho_o^2)_g}$$

$$S_m = \frac{1}{R} \left(\frac{1200}{3937} \right) S_g$$

R = scale reduction factor

ϕ' is interpolated from table of y

$$\Delta\phi = C S_m^2$$

$$\phi = \phi' - \Delta\phi$$

$$\Delta\lambda_1 = S_1 A \sec \phi$$

$$\log S_1 = \log S_m - \text{cor. arc to sine}$$

$$\log \Delta\lambda = \log \Delta\lambda_1 + \text{cor. arc to sine}$$

$$\lambda = \lambda(\text{central mer.}) - \Delta\lambda$$

PLANE COORDINATES ON TRANSVERSE MERCATOR PROJECTION

State Fla. (East) Station Summit 1932

λ (Central meridian) 81° 00' 00.000

ϕ 30° 23' 16.632

λ 81 29 23.419

$\Delta\lambda$ (Central meridian $-\lambda$) -29 23.419

$\Delta\lambda$ (in sec.) -1763.419

$\log \Delta\lambda$	<u>3.24635551</u>	$\log S_m^2$	<u>9.345649</u>
Cor. arc to sine	<u>- 529</u>	$\log C^*$	<u>1.173660</u>
$\log \Delta\lambda_1$	<u>3.24635022</u>	$\log \Delta\phi$	<u>0.519309</u>
$\log \cos \phi$	<u>9.93581955</u>	ϕ	<u>30° 23' 16.632</u>
colog A	<u>1.49064986</u>	$\Delta\phi$	<u>+ 3.3060</u>
$\log S_1$	<u>4.67281963</u>	ϕ'	<u>30 23 19.9380</u>
Cor. sine to arc	<u>+ 393</u>		
$\log S_m$	<u>4.67282356</u>		
$\log 3937/1200$	<u>0.51598417</u>	Tabular difference } of y for 1" of ϕ'	<u>101.02100</u>
$\log R$	<u>2555</u>		
$\log S_0$	<u>5.18878218</u>	y (for minutes of ϕ')	<u>2,199,250.12</u>
$\log S_0^3$	<u>15.5663465</u>	y (for seconds of ϕ')	<u>+ 2,014.16</u>
$\log (1/6\rho_0^2)_0$	<u>4.5821873</u>	y	<u>2,201,264.28</u>
$\log (S_0^3/6\rho_0^2)_0$	<u>0.1485338</u>		
S_0	<u>- 154,447.96</u>	$\log \sin \frac{\phi+\phi'}{2}$	
$(S_0^3/6\rho_0^2)_0$	<u>- 1.41</u>	$\log \Delta\lambda$	
x'	<u>-154,449.37</u>	$\log \Delta\alpha_1$	
	<u>500,000.00</u>	$\log (\Delta\lambda)^3$	
x	<u>345,550.63</u>	$\log F$	
		$\log b$	
		$\Delta\alpha_1$	
		b	
		$\Delta\alpha$	
		$\Delta\alpha$	

*Take out C first for ϕ and correct for approximate ϕ' .

$$x=500,000.00+x'$$

$$x'=S_g+\left(\frac{S_g^3}{6\rho_g^2}\right)_g$$

$$S_g=\frac{3937}{1200} S_m R$$

$$\log S_m=\log S_1+\text{cor. sine to arc}$$

$$S_1=\frac{\Delta\lambda_1 \cos \phi}{A}$$

$$\log \Delta\lambda_1=\log \Delta\lambda-\text{cor. arc to sine}$$

$$\phi'=\phi+\Delta\phi$$

$$\Delta\phi=C S_m^2$$

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

S_m =distance in meters from point to central meridian

S_1 =distance in meters from point to central meridian reduced to sine

S_g =grid distance in feet from point to central meridian

R =scale reduction factor

Values of y in minutes and tabular difference for 1 second, scale reduction factors, $\text{colog } A$, and $\log C$ are given in auxiliary tables.

REVIEW OF AIR PHOTO COMPILATION NO. T 5671

Chief of Party: Hubert A. Paton

Compiled by: W. H. Burwell

Project: HT 168 - St. Johns R., Florida Instructions dated: Mar. 4, 1936

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)
Two 3-point-fixes taken with theodolite, shoreline taken from G. C. Sheets X and Y and U. S. E. Surveys of 1934.
X is T-6487a, Y is T-6487b.
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) ~~None transmitted.~~ The U. S. E. surveys mentioned above have been received by the office and there are a sufficient number of triangulation stations for their application to the charts.
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.
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)
Shoreline along Le Baron, and Vicks. Islands have been taken from U.S.E. Surveys. See report p. 9.

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."

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). Fish and Dog are submitted with this report. Other stations have been submitted previously, *and are filed under Surveys No T-6487a, T-6487b.*

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. 16d, e; and 60) Submitted previously. *There are no landmarks of importance for charting in this area according to the Surveys T-6487a, T-6487b which cover this area. Aids to navigation are shown on this compilation.*

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 66k)

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. 66j) See discussion of junction with T 5131 in descriptive report. All others satisfactory.

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. for Bench marks which are shown with a circle instead of the standard symbol.*
 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, 48)

16. No additional surveying is recommended at this time.
17. Remarks: The radial plot and some of the tracing was done by Party No. 20, before Ensign Price, Chief of Party, was transferred to Party No. 26. Mr. Burwell, the compiler, was transferred with Ensign Price and completed the work he had started.
18. Examined and approved;

Hubert A. Paton
Hubert A. Paton
Chief of Party

19. Remarks after review in office:

see following pages

Reviewed in office by: Lemard A. McGowan Sept 15, 1936.

Examined and approved:

C. K. Green.
Chief, Section of Field Records

L. O. Robert
Chief, Division of Charts

Fred. L. Peacock
Chief, Section of Field Work

Stude
Chief, Division of Hydrography
and Topography.

REVIEW OF AIR PHOTO COMPILATION T-5671 (1933)
Scale 1:10,000

Comparison with Graphic Control Surveys

T-6487a (1934), 1:10,000

All details on T-6487a are shown on this compilation in this area except non-recoverable plane table stations and the magnetic declination.

The following stations have been transferred to the compilation in this office by L. A. McGann and checked by H. Schleiter.

1. All bench marks, except those which have been described on Form 524 previously transferred.
2. The two telephone poles on the shores of Clapboard Creek in lat. $30^{\circ} 24.3'$, long. $81^{\circ} 30.5'$.

There are no discrepancies between T-6487a and this compilation.

T-6487b (1934), 1:10,000

All details on T-6487b are shown in this compilation in this area except non-recoverable plane table stations.

The following stations have been transferred to the compilation in this office by L. A. McGann and checked by H. Schleiter:

1. All bench marks except those which have been described on Form 524, previously transferred.
2. The two telephone poles on the shores of Browns Creek at lat. $32^{\circ} 25'$, long. $81^{\circ} 31.8'$.

The symbol for a drawbridge is shown on T-6487b where the highway crosses Browns Creek. No draw is known to exist here and therefore none is shown on this compilation. There are no other discrepancies between T-6487b and this compilation in this area.

Of the described recoverable stations shown on this compilation two of them, viz., FISH and DOG have been located by theodolite and are filed under this compilation number. All others have been located by plane table and are filed under surveys No. T-6487a and T-6487b.

Comparison with Previous Topographic Surveys

T-550 (1855), 1:10,000

Survey T-550 covers the St. Johns River from longitude $81^{\circ} 26'$ to longitude $81^{\circ} 32'$. There have been many changes in this area since the time of survey T-550. The compilation is detailed and adequate to supersede T-550 over the common area.

T-551 (1855), 1:10,000

Survey T-551 covers the St. Johns River from longitude $81^{\circ} 31'$ to longitude $81^{\circ} 38'$. Mill Cove is included in this area. There have been many changes over the common area since the time of survey T-551. The compilation is detailed and adequate to supersede T-551 over the common area.

Comparison with New Hydrographic Surveys

H-6126 (1935), 1:10,000

There are no conflicts between the soundings on H-6126 and the shoreline of this compilation.

Comparison with Charts Nos. 577, 1111, 1243

Chart 1111 is on a scale of 1:450,000; chart 1243 on 1:80,000 scale; chart 577 on 1:10,000.

An excellent comparison with chart 577 in this area is given on page 11 of the descriptive report for this compilation. The following additional differences were noted:

(1) The lines which appear on charts 577 and 1243 at lat. $30^{\circ} 24.7'$, long. $81^{\circ} 32'$ on Vicks Island cannot be identified on the photos and have not been shown on the compilation. The training walls which these lines probably represent are now an integral part of this island.

(2) The row of small buildings shown on chart 577 at Fulton, just to the west of Fulton Light, are no longer in existence.

No landmarks are shown on this compilation and none have been recommended by the compilation party or the graphic control surveys in this area. No list of landmarks covering this area could be found in the chart letter file.

On charts 577 and 1243, the landmark "GABLES" at $30^{\circ} 23.4'$, $81^{\circ} 30.5'$, the only one shown on the charts in this area, is recommended for deletion (see report, page 11).

All aids to navigation in this area are shown on this compilation in the positions they were in as of date November, December 1934, the time of the graphic control surveys T-6487a, T-6487b.

In the Local Light and Buoy List for 1936 there are three azimuths of ranges given which differ slightly from the azimuths as given in chart letter 268 (1935) and on the graphic control surveys T-6487a, T-6487b. The one difference concerning the azimuth of the Training Wall Range is 10' in error in the Light List. This error has been previously reported in the review of T-5672.

Browns Creek Cut Range is $300^{\circ} 22'$. The Light List gives $300 1/2^{\circ}$.

St. Charles Creek Cut Range is $27^{\circ} 27'$. The Light List gives $27 1/2^{\circ}$. The Lighthouse Service has a copy of chart letter 268 (1935).

These differences are probably due to the Lighthouse Service listing the azimuths to nearest $1/2$ degree only.

Plane Coordinates

The plane coordinates of the eastern Florida traverse Mercator projection have been shown by intersections at 5,000 foot intervals. The intersections were computed in the Division of Geodesy and were plotted by *McGann* and checked by *Schleiter* in this office. The lines and intermediate intersections were determined by means of the projection machine. *coordinates are not shown on blueprint*

Remarks

This compilation has been carefully compiled and is complete in detail. The descriptive report gives an excellent account of the methods employed and comparison is made with other surveys. A minimum of time has been required for the verification in this office.

September 15, 1936.

Reviewed by L. A. McGann.

Lemard A. McGann

W. J. Jones

applied to drawing of Chart 577 - May 14, 1937 - JFW.