4565-4566

4565 4566

Form 504

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

E. Lester Jones, *Director*

State: Florida

DESCRIPTIVE REPORT

~~Topographic~~ / *Hydrographic* Sheet No. " B & BB " 4565 & 4566

LOCALITY

Tampa Bay

~~Gulf Coast~~

~~Tampa Bay~~ Maximo Point to

Gadsden Point, ~~and adjacent~~ Papys Bayou

Smacks Bayou, Coffee Pot Bayou

~~Covering Bayous~~

U. S. C. & G. S.

1926

CHIEF OF PARTY

Ray L. Schoppe

GOVERNMENT PRINTING OFFICE

Copy to Field Records

(11)

December 4, 1926. E.A.K.

Division of Hydrography and Topography:

Division of Charts:

Tide reducers are approved in volumes of sounding records for

14 HYDROGRAPHIC SHEET NO. S. 4565 and 4566

Locality: TAMPA BAY, FLORIDA WEST COAST.

Chief of Party: R. L. Schoppe in 1926.

Plane of reference is 2.6 ft. on tide staff at mean low water reading A.C.L.Dock, St. Petersburg, Fla.

For reduction of soundings, condition of records satisfactory except as checked below:

1. Locality and sublocality of survey omitted.
2. Month and day of month omitted
3. Time meridian not given at beginning of day's work.
4. Time (whether A. M. or P. M.) not given at beginning of day's work.
5. Soundings (whether in feet or fathoms) not clearly shown in record.
6. Leadline correction entered in wrong column.
7. Field reductions entered in "Office" column.
8. Location of tide gauge not given at beginning of each day's work.
9. Leadline corrections not clearly stated.
10. Kind of sounding tube used not stated.
11. Sounding tube No. entered in column of "Soundings instead of "Remarks".
12. Legibility of record could be improved.
13. Remarks.

G Rude

Chief, Division of Tides and Currents.

DESCRIPTIVE REPORT

to accompany

SHEET #

FIELD SHEET B & SUB-SHEET BB

TAMPA BAY - FLORIDA

STEAMER BACHE

1926

DESCRIPTIVE REPORT

to accompany

SHEET #

FIELD SHEET B & SUB-SHEET BB

TAMPA BAY- FLORIDA

STEAMER BACHE

1926

AUTHORIZATION:

The work on this sheet is done in accordance with orders issued to the Steamer HYDROGRAPHER dated June 3, 1924 and supplemental instructions issued to the Steamer BACHE on December 3 1925.

EXTENT:

This sheet covers the middle area of Tampa Bay and practically all of the North of Tampa Bay proper. On the North it joins sheet A at the entrance to Old Tampa Bay and Port Tampa. On the East it joins sheet D. On the South it joins work done by the Steamer HYDROGRAPHER , and on the West it joins work in Boca Ciega Bay on sheet E. The whole East waterfront of the City of St. Petersburg lies within the limit of this sheet. The details of the Port of St. Petersburg and the City Yacht Basin as well as the Municipal Pier were surveyed by the HYDROGRAPHER on a large scale sheet. The soundings in Papys Bayou, Smacks Bayou and Coffee Pot Bayou are plotted on a separate sheet "BB" scale 1-5000, which is submitted herewith as a sub plan in connection with sheet B. The sounding records for sheet B and BB are in one set.

METHODS:

This area was all sounded with the ship's launches. An adequate number of triangulation stations is located on the sheet, supplemented with plane table signals which made possible a three point sextant fix on any portion of the sheet. Since this is a resurvey of a much traveled body of water, it is only necessary to verify the existance of known channels and danger. Practically no change was found from existing charts except that the present chart shows an incorrect location of the dredged cuts Northwest of Indian Hill. There was also noted a different system of beacons for the channel off Pinellas Point. Other changes are due to new constructions and are as noted on present sheets.

The coast is all low and flat. Mangrove areas and white sand beaches are about equally divided along the shore line. Except where the trees have been cut, dense mangrove and pine growth extends to the water edge. South of Indian Hill, very little evidence of habitation is noted. An auto ferry is about to be put in operation from Piney Point at signal Pin to Pinellas Point. This project is now in the construction stage. On the North , from Gadsden Point to Picnic Island, a dense growth of timber extends to the water's edge. In clear weather the tall buildings of Tampa are seen over the trees of Gadsden's Point. Beyond Picnic Island, the tall phosphate elevator at the Atlantic Coast Line Terminal, dominates the whole landscape. Various oil storage tanks and several tall water tanks are seen in this same locality. On the West end of the docks close to the elevators and the coaling towers is a tall slim fresh water tank. This has been selected as a landmark for charts on account of its location and ease of identification. From the northern part of this sheet, Gandy Bridge shows plainly to the North of Port Tampa. Along the West shore, practically all the water front on this sheet is within the city limits of St. Petersburg. The main business section of St. Petersburg is seen between the Power House Stack and the Vinoy Hotel. Residential sections extend North and South from this area. The pavillion on the East end of the new Municipal Pier, (which is not completed at the time of this survey), will be the most prominent object on the St, Petersburg Waterfront. This will be located by the HYDROGRAPHER before she leaves the city. Numerous lighted ranges have been built to mark the dredged channels. They serve their purpose well, but are not easily identified by strangers.

Currents in this area are strong and confused. In general, they split around the shoals and run strongest along the channel lines. Slack water occurs about the same time as high and low water. But the water level is much influenced by winds. A strong Northeast wind will lower the level of water at Tampa several feet. The hurricane of September 19, 1926, blew water out of Hillsboro Bay until it reached the level of -8 feet at Tampa. The same cause lowered the water to -5 feet at the Port of St. Petersburg. It should be noted that a heavy Northeast or Southwest wind squall is likely to set up a tide level and currents entirely opposite from what might be normally expected. The currents do not set fair with the dredged channels, and care must be used to prevent being set out of the narrow cuts.

Landmarks are noted above. All lighted beacons have been located by triangulation and may be identified from the chart without further description. In the city of St. Petersburg, the objects shown on this sheet are easily distinguished. The only further description needed is in regard to the Vinoy Hotel. This is a large reddish brown structure on the waterfront, surmounted by a single tower in the Southwest corner. Also the Soreno Hotel is a yellow brick building with two towers on the East front. Numerous other tall buildings are seen West of these objects, but none are particularily prominent. Also there is much new construction in progress, but none is authorized that will affect the prominence of the objects here shown. In the Port Tampa Channel, Triangulation Station See shows plainly. It is the observation tower at Club San Remo. In the Winter

Season of 1925 - 26 this tower was brilliantly lighted at night. The only ranges used by pilots in this area are marked by lighted beacons.

Inshore dangers are easily noted on the chart. All are marked by beacons or buoys except the shoal one mile West of Pinellas Point Beacon. The old chart shows two pile beacons marking the short dredged cut at the entrance to the Boca Ciega Channel. These two beacons do not exist, but the cut is easily entered by keeping beacons #3, #5, #7& #9 Lined up ahead. South and East of the main ship channel along cuts B - C - D - E - & - F a spoil bank has been deposited by the Army Engineers' dredge. This bank is a menace to any moderate draft ship that gets off the range, and it prevents sailing ships from having full use of the natural channel to beat up against a head wind. This bank is supposed to be ¼ mile from the channel, but it fails to maintain that distance. As a matter of fact several shoal lumps were noted as close as 200 meters to the deep water range.

Since this survey was finished it was noted that the dredge " Barnard " was depositing spoil from cut " F " on the West side of the channel. An inquiry at the U. S. Engineers' Office brought out the information that this material was to be moved at a later date. From my observation regarding the maintainance of these cuts, I should say that a very poor job has been done. Also five courses are now necessary to pass through this cut where a better channel could have been secured by using two channels.

The present chart fails to show the correct position of the main ship channel . It is not known how long this incorrect information has been printed in this form, but it is a fact that the discrepency has long been known in the Tampa Office of the U. S. Engineers. It would be interesting to know whether that office has ever called this error to the attention of our office. There is also a marked difference in the location of buoys in cuts B - C - D - & - E. They are so placed as to cover the present channel.

The main ship channel is located as shown on this sheet. Cuts " C "-" E " and " F " are marked by lighted ranges and cuts "B" and "D" are marked by gas buoys. The full depth of 27 feet is usually available in these cuts, and they are cleaned out every few months by the U. S. E. Dredge Barnard. Strong currents set across these channels and must be looked out for at all times. Were it not for these strong and erretic currents, I believe that the incorrect location of channels and buoys would have been noted and reported by some mariner long ago. Upon emerging from cut " F ", the channel to Tampa leads to the Eastward through a natural channel. From the same point, the channel to Port Tampa leads Westward and enters cut "G". At present, cuts "G", "J", and "K" have been abandoned by the Government but they are maintained to 27 feet in depth by the A. C. L.

Railway, this being the only approach to their Port Tampa Terminal The turn from cuts "G" to "J" is a bad one and deep laden tankers coming in are frequently obliged to stop and back in order to make the turn. A railroad tug is available at Port Tampa for whatever assistance is necessary.

The deep water channel to St. Petersburg follows the above as far as the West end of cut "G", where it turns Southwest through a broad natural channel with a least depth of 26 feet. The Port of St. Petersburg is only dredged to 18½ feet at low water. There is some talk of dredging a 27 foot channel to the docks from the West end of cut "G". No natural ranges are used on these channels. The chart and various aids to navigation are guides to the best water.

A 12 foot channel is available to St. Petersburg by passing close to the Eastward of the Pinellas Point Beacon and on course 357° true to the entrance beacons at the Port of St. PetersburgIt is proposed to deepen this to 16 feet.

For the shoal areas of Boca Ciega Bay, a 7 foot channel has been dredged on a bearing 266° true from Pinellas Point Light. After passing beacon #9, this route follows the natural channel as staked out by pile beacons. These beacons are frequently knocked down by barges, but they are replaced without delay. On account of their temporary character this party did not locate them by triangulation.

In all of the above channels, the full depth is maintained by dredging. The channels are narrow, and if it appears from this sheet that less depths are found in the channels, it will be noted that a slight displacement of soundings to account for a small time error will be all that is needed to correct the information.

A projected channel will lead to the new ferry docks at Pinellas Point and Piney Point. Shallow draft boats will be run and the new channels will be less than 6 feet deep.

No ~~The~~ anchorages of special value are included in this sheet. Vessels waiting for berth at the Port of St. Petersburg, anchor near the channel buoy one mile North of the entrance beacons. Yachts drawing less than 9 feet usually enter the Yacht Basin just South of the new Municipal Pier.

The waterfront at St. Petersburg has been changed considerably. The new Port of St. Petersburg consists of an 18½ foot channel leading to first class concrete pier which has a length of 1500 feet along its face with full depth along its entire length. Two storage sheds with a total of 40,000 sq. ft. of area have been erected. No rail connection is yet built, nor is there any special cargo handling machinery. The entrance has two lighted beacons along its South side, and in 1926 there were two day marks giving a range

on the best water. Pilots are available in St. Petersburg and will come out to meet vessels at Egmont Key if notified in time.

Bayboro Harbor is used by a fishing fleet, and a large amount of freight (especially sand and gravel), is handled there by barges. A lighted range is maintained at the entrance to Bayboro Harbor, but in 1926 this was badly out of line and not reliable. The Yacht Basin is much used by pleasure craft and a second basin will soon be ready for use just Southeast of the Vinoy Hotel.

The A. C. L. Railroad Pier at the Northeast corner of the Yacht Basin is in ruins. A water tank for the railroad tug is still maintained on the end of the pier. On the North side of the Yacht Basin, the magnificent new recreation pier will soon be completed. This is a substantial concrete affair and will be a landmark from all approaches. No changes have been noted except those due to construction. The various bayous are little used, although various real estate developers have dug channels deep enough to get dredges and barges in alongside their property.

The only dangers not shown on this old chart are a 5 foot spot one mile Southeast from "J" rear range beacon. An 11 foot spot was found 300 meters North of the entrance to the Port of St. Petersburg. All other shoals are as shown on the old chart.

The instructions call for a re-survey of this area, but it was found necessary to run lines closer than were outlined there. A close development was made of all areas except the dredged cuts and spoil banks. The Army Engineers' dredge is constantly at work in these cuts and it is believed that their information as regards depths of channel is reliable. The spoil banks are mostly composed of shells, and a large fleet of barges is engaged in digging up this shell for construction purposes. That causes a most irregular sort of a surface which can only be developed at great cost in time and effort, and due to its constant change, such information is never up to date. The least depth found on the spoil bank near Indian Hill was 7 feet. Survey methods were as usual. The ship's launches carried all sounding lines as far inshore as the boats would float. In the bayous North of St. Petersburg, a skiff was used, but with little success. This is due to the extremely shallow natural channels and the irregular manner in which the dredges took out material for hydraulic fill. Aside from a few soundings near the dredged cuts, which may be moved to account for small time errors, the only doubtful sounding noted on the sheet is 11 feet, 220 meters SSE from Pinellas Point Light. This was later searched for without success, and it is recommended that it be rejected.

Names are discussed in the Descriptive Report covering Topo sheet of this area. Pinelos is an incorrect spelling of the word Pinellas and the latter spelling should be used for all geographic purposes.

The Director of Public Works at St. Petersburg has used the information obtained by this party as a basis for his preliminary estimates in dredging proposals in two places. First, a 27 foot channel from the Port of St. Petersburg to the West end of cut "G", and second, for a proposed 16 foot channel across the bar at Pinellas Point Height.The same official was assisted in his maintenance work at the Port by the loan of instruments and also by the location of various aids to navigation by this party.

It should be noted that the datum plane established at St. Petersburg by the Steamer HYDROGRAPHER does not correspond to that previously established by the U. S. Engineers.

A table of statistics follows.

Respectfully submitted,

Ray L Schoppe

Approved and forwarded

Ray L Schoppe

Ray L. Schoppe, Chief of Party

STATISTICS SHEET NO, (Field Letter B)

Date, 1926	Letter	Volume	Positions	Soundings	Miles Statue	Vessel
March 4	a	1	26	100	4.9	Lch. # 2
" 5	b	1	21	94	5.1	" "
" 8	c	1	139	556	31.2	" "
" 9	d	1	153	622	36.4	" "
" 9	d	2	21	88	5.1	" "
" 11	e	2	61	289	15.5	" "
" 12	f	2	209	895	50.1	" "
" 15	g	2	59	200	10.1	" "
" 15	g	3	172	679	37.5	" "
" 17	h	3	215	867	50.1	" "
" 18	j	4	204	845	48.6	" "
" 22	k	4	95	548	30.7	" "
" 23	l	4	29	154	7.5	" "
" 23	l	5	25	98	5.9	" "
" 24	m	5	155	779	44.7	" "
" 30	n	5	30	127	6.4	" "
April 1	p	5	108	378	19.5	" "
" 12	q	6	95	471	25.7	" "
" 13	r	6	132	682	39.1	" "
May 3	s	6	94	476	26.2	" "
" 3	s	7	25	102	9.2	" "
" 4	t	7	144	610	33.6	" "
" 10	u	7	142	533	21.4	" "
" 12	v	7	68	247	12.2	" "
" 12	v	8	69	305	13.8	" "
" 17	w	8	139	642	2510	" "
" 18	x	8	83	317	13.8	" "
" 18	x	9	31	140	5.7	" "
" 19	y	9	149	673	27.7	" "
" 21	z	9	94	393	15.9	" "
" 24	a'	9	52	204	12.0	" "
" 24	a'	10	91	358	19.4	" "
June 7	b'	11	51	184	10.1	" "
Oct. 18	c'	12	32	94	3.3	" "
TOTAL			3213	13750	721.4	

STATISTICS SHEET NO. (Field Letter B)

Date, 1926	Letter	Volume	Positions	Soundings	Miles Statute	Vessel
March 25	a	1	42	171	7.8	Lch. # 1
" 27	b	1	62	329	8.4	" "
" 31	c	1	101	462	18.3	" "
Aug. 2	d	2	84	492	14.0	" "
Oct. 1	e	2	20	54	2.0	" "
TOTAL			309	1508	50.5	

Date, 1926	Letter	Volume	Positions	Soundings	Miles Statute	Vessel
May 24	a	11	152	736	18.2	Skiff
June 7	a	11	122	801	18.2	"
TOTAL			274	1537	36.4	

IN REPLY ADDRESS THE DIRECTOR
U. S. COAST AND GEODETIC SURVEY
AND NOT THE SIGNER OF THIS LETTER

AND REFER TO NO. 11-VEC

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

WASHINGTON

May 25, 1927.

SECTION OF FIELD RECORDS

Report on Hydrographic Sheet No. 4565

Tampa Bay, Florida. Maximo Point to Gadsden Point.

Surveyed in 1926

Instructions dated June 3, 1924 (HYDROGRAPHER) - December 3,1925(BACHE)

Chief of Party, R. L. Schoppe.

Surveyed by C. A. Egner, R. C. Overton.

Protracted by C. A. Egner and H. A. Karo.

Soundings plotted by H. A. Karo and B. G. Jones.

Verified and inked by G. Risegari.

1. Conditions of records satisfactory except as noted below:
Soundings (whether in feet or fathoms) not clearly shown in record.
"The injudicious use of the word "same" denoting the intention of the recorder to use the same signals that were used in a preceding position and failure to make corrections later when protracting these positions on the smooth sheet.

Examples: 138 d (red)?, 139 d (red)✓, 24 e (red)✓,
✓26 e (red), ✓51 f (red), 52 f (red).✓

No bottom characteristics are recorded in Vol. 1, - number of soundings taken, 1372. There is a general lack of bottom characteristics in the lesser important (though large) sounded areas." G.Risegari.

2. The development conformed with General Instructions. No further development is necessary.

3. The protracting, plotting and draftsmanship was satisfactory in general.

4. The usual depth curves could be drawn.

5. The junctions with sheets H. 4562, H. 4563 was satisfactory. The junction with sheet H. 4569 will be taken up in the review of that sheet. Junction with sheet H. 4584 will be made later.

6. The spoil banks on east side of dredged channel were mentioned in the descriptive report and verifier's report. They form a very important menace to navigation. Additional work might disclose more of these dumps, but as the dredging is carried on continuously no survey could be complete. Sufficient shoal spots were discovered to form a warning of the danger area.

Survey adequate, but warning of condition should

May 24, 1927. be noted in Coast Pilot. L.

H. A. Paton, Lt. (j.g.) U. S.
Coast and Geodetic Survey.

The Chief of Party calls attention to the

Approved: inaccuracy of location of one of the dredged cuts as charted by the Army Engrs. blue print, which are in error. Cartographer should note difference from this survey. L.

Chief, Field Records Section (Charts).

L. O. Colton.

Chief, Section of Field Work (H. & T.)

E.E.

IN REPLY ADDRESS THE DIRECTOR
U. S. COAST AND GEODETIC SURVEY
AND NOT THE SIGNER OF THIS LETTER

AND REFER TO No. 11-DRM

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

WASHINGTON April 27, 1927.

SECTION OF FIELD RECORDS

Report on Hydrographic Sheet No. 4566

Papy, Smack and Coffee Pot Bayous, Tampa Bay, Fla.

Surveyed in 1926

Instructions dated June 3, 1924 (HYDROGRAPHER), Dec. 3, 1925 (BACHE)

Chief of Party, R. L. Schoppe.

Surveyed by C. A. Egner.

Protracted and soundings plotted by F. S. Johnson.

Verified and inked by G. Risegari.

1. The records conform to the requirements of the General Instructions except that there was a total absence of bottom characteristics.

2. The plan and character of development conform to the requirements of the General Instructions.

3. The plan and extent of development satisfy the specific instructions except that an additional line should have been run to the eastward of Smack Bayou between this sheet and H. 4565. Dredge operations responsible for Intracoastal Channel.

4. The information is sufficient for drawing the usual depth curves.

5. The usual field plotting was done by the field party and was well executed.

6. The junction with H. 4565 will be taken up in the review for that sheet.

7. No additional work is necessary.

8. The many deep soundings on the sheet that at first glance appear erroneous are probably due to dredging operations that are going on here. (See descriptive report.)

9. Attention is called to the fact that in Papys Bayou the shoreline at the point of land northwest of ⊙ Ham was changed in the office to conform to the soundings obtained. As originally shown on the topographic sheet, nine foot soundings plotted about 37 meters inside the shoreline. The change was also made on the topographic sheet (T. 4199). Concurred in by Chief of Field Work.

10. Character and scope of surveying - good.
Field drafting - very good.

11. Reviewed by A. L. Shalowitz, April, 1927.

Approved:

H. Giacomini

Chief, Section of Field Records (Charts)

L. O. Colbert

Chief, Section of Field Work (H. & T.)

Report on Hyd. Sheet 4566

Papy, Smack, Copper Pt Bayous - Schoppe.

May - June 1926.

Records :-

Satisfactory in general.

Exceptions:- No bottom characteristics.

Protracting :-

Satisfactory in general.

Plotting :- " " "

Draftsmanship :-

Satisfactory " "

Report on Hyd. Sheet 4565 { Maximo Pt. to Sabine Pt. Schoppe, May-Oct. 1926

Records:-

Satisfactory in general.

Exceptions: The injudicious use of the word "same" denoting the intention of the recorder to use the same signals that were used in a preceding position + failure to make corrections later when protracting these positions on the smooth sheet. Ex. 138 d (red), 139 d (red), 24 e (red), 26 e (red), 51 f (red) 52 f (red). No bottom characteristics are recorded in Vol. 1, - number of soundings taken, 1372. Attention may be called at this point that there is in general a lack of bottom characteristics in the lesser important though large sounded areas.

Protracting:-

Satisfactory in general.

Plotting :- " " "

Draftsmanship:- " " "

Miscellaneous :-

In the descriptive report accompanying this sheet, page 5, the Chief of Party recommended that an 11 ft. sounding be rejected for reasons given therein. Upon discussion by Capts. A.L.S. + C.P.C., authority was granted to reject this particular sounding.

A 22 ft. sounding, 48 a, of adjoining Hyd. Sheet 4563 looks questionable, but it was decided by same authority above to let it stand, - there being no real good reason to prove its inexistence.

Report on Hyd. 4566. (cont.)

Miscellaneous: - (cont.)

In the A matter of interest bearing on this sheet might be well to mention here regarding shoal spots close to the channel at lower right hand corner of the sheet. All these shoal spots were checked carefully and were apparently noted by the F.P. as shown in the records by a check mark against them or a remark. It was at first uncertain and appeared as erroneous work as to what caused this unnatural condition of the bottom, but it is no doubt that the spots are spoils banks made by the dredges working in this vicinity.

Respectfully submitted,
S. Ridgeway.

April 5, 1927.

Form 537
11—5812

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO. 4565

HYDROGRAPHIC TITLE SHEET

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

Field No. B 4565

REGISTER NO.

State Florida

General locality Tampa Bay ~~Gulf Coast Florida~~

Locality ~~Tampa Bay~~ Maximo Pt. to Gadsen Pt.

Scale 1:20,000 Date of survey March - October, 1926

Vessel Str. BACHE

Chief of Party Ray L. Schoppe

Surveyed by C. A. Egner R. C. Overton

Protracted by C. A. Egner H. A. Karo

Soundings penciled by H. A. Karo B. G. Jones

Soundings in ~~FathOMS~~ feet

Plane of reference M. L. W.

Subdivision of wire dragged areas by

Inked by

Verified by

Instructions dated June 3 1924 December 3, 1925

Remarks:

GPO

Form 537
11—5812

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

REG. NO. 4566

HYDROGRAPHIC TITLE SHEET

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

Field No. "BB" 4566

REGISTER NO.

State Florida

General locality ~~Gulf Coast, Tampa Bay~~ Tampa Bay

Locality ~~West side of Pinellas Peninsula~~ Papys Bayou, Smacks Bayou, Coffee Pot Bayou

Scale 1:5,000 Date of survey May June, 1926

Vessel BACHE

Chief of Party Ray L. Schoppe

Surveyed by C. A. Egner

Protracted by F. G. Johnson

Soundings penciled by F. G. Johnson

Soundings in ~~fathoms~~ feet

Plane of reference M. L. W.

Subdivision of wire dragged areas by

Inked by

Verified by

Instructions dated ,192

Remarks: This sheet is supplemental to sheet B. Sounding records and descriptive report for sheet B covers this sheet.

GPO