

4686

U. S. COAST & GEODETIC SURVEY
LIBRARY AND ARCHIVES

DEC 12 1932

Acc. No. _____

see also 4686a

Form 504
Ed. June, 1929

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
R. S. Patton, Director

State: California

DESCRIPTIVE REPORT

Photo *Topographic* } Sheet No. 4686
~~Hydrographic~~

LOCALITY

Dierssen Landing to Hayes Point
San Joaquin River Delta
California.

19³²

CHIEF OF PARTY

O. S. Reading

4686

Applied to drawing of Chart 5527
Dec 28, 1934

The plot was made without particular difficulty, and although the centers of photographs 503 to 508, inclusive, fell in open water, indicating possible weakness in the plot, nice intersections were finally obtained throughout.

It was discovered that the point indicated on the photographs as the position of Potato Point Light failed to check with the rest of the plot and subsequent measurements in the field checked the position as shown by the plot.

Possible errors in adjustment to the plot in tracing may be found on the extreme east, west and south margin of the sheet, since on the east and west side the tracing was carried to the last photograph that could be plotted on the size celluloid sheet used and the intersections at these margins were necessarily slim. On the south margin, particularly on the western side, the tracing was carried more than half way down the wing of the photograph in order to connect with the adjoining sheet.

All the photographs required some adjustment to fit the plot, but those most out of scale were #571 and 572, showing Old River to False River to the San Joaquin River, and the northeast cover of Mandeville Island. Although a number of intersections were made to control the tracing of this area, it is thought that therein lies the weakest portion of the sheet.

The field inspection party indicated a number of objects that would be useful as signals for hydrographic and topographic surveying and practically all of these objects were well located by intersections in the plot and indicated on the sheet by slant lettering of the same type as the triangulation station names but smaller, and the points enscribed as the center of a black circle, or the object itself drawn (as in the case of a house, the gable of which can be used.)

Topography and Symbols

Lieutenant Raynor, Chief of the field inspection party, is the authority for most of the following:

√ (1) Islands:

The islands, which were originally tule growth, have been reclaimed by the use of levees varying in height from five to fifteen feet, and the land inside the levees is usually below the river level, in places five to ten feet below mean lower low water. This makes it possible to take water for irrigation from the river by syphons. These syphons are frequently indicated on the sheet and are useful for hydrographic signals. Pumps are located on the islands to remove surplus water.

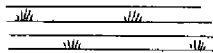
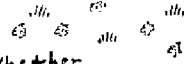
(2) Tule and the High Water Line:

What is generally known as tule in this region is a tall aquatic growth shaped much like a rapier with a cluster of buds on the end, and there is also a flat-leaved plant which resembles cattail. Ditches and canals are usually thick with tule and it also appears as a separate tule island or berm or as a growth along the levee. Almost the entire shoreline on this sheet is grown over with tule of varying density.

"While most of the tule ground may be at or just below mean high water, it is believed the tule edge should be shown as the mean high waterline --. This applies where there is a dense growth of tule --. There are some growths of tule so thin that they should be shown as detached grass --. These appear on the photos much like shadows". The highwater line was shown by a heavy solid line and was located with regard to the tule according to the above definition, but the exact location is, in any case, rather indefinite. Where the tule was so thin as to appear as a shadow on the photos, the horizontal cultural line of the tule was extended beyond the high water line as far as the thin tule extended. Where the field inspection party noted that the H.W.L. was inside the heavy tule growth, the H.W.L. was drawn along the outside edge of the tule, and a note placed at that point in explanation of it.

(3) Cultivation:

All the land on the islands is either cultivated or capable of being cultivated except in the canals and ditches and some of the sloughs. Where, at the time of the photographs, it was evident that the land had not been cultivated for some time as evidenced by tule or bushes and weeds, these symbols were shown

tule  bushes and weeds . Otherwise the land was considered cultivated ^{where} crops were visible or not. Most of the land is given over to the growing of celery, asparagus and corn, but onions, potatoes and grain are also raised.

(4) Ditches and Canals:

The islands are subdivided into plots by a number of intersecting ditches which are of a semipermanent nature. It was attempted to show those ditches which are of a more permanent nature and not simply the division between present crops. A fairly accurate check on these ditches was obtained from plats furnished by the owners of the island, when these were available. The ditches connect with a centrally located canal which is drained or filled, as the case may be, by pumps at the levee. The ditches are shown by light, single, solid lines, and the canals by a double, light, solid line. The sloughs which are on some of the islands

are of a marshy nature and are filled with tule and brush. ^{Their} Their general shape is outlined with a long dash and the tule and brush symbol shown. Where standing water is to be seen openly in these sloughs, it is marked on the sheet by the shaded water symbol.

(5) Roads:

There are roads on most of the levees, and except where specifically marked as being county roads, these roads are understood to be private roads maintained by the owners of the land. These roads on the levees are dirt roads (except in one instance which is a gravel county road on the north side of Twitchell Island) but some are apparently in much better condition and in more use than others, and to distinguish the good, through, dirt or gravel road, from the poor, little used, side or farm road, the former was shown in the full double line, and the latter in double dash line except when only the barest trace of a road could be made out, in which case, the single dash trail symbol was used. Only those cross-country farm roads are shown which were easily discerned on the photographs, since the field inspection party did not indicate them on the pictures and they are seldom of permanence or of use to anyone but the property owners.


(6) Miscellaneous Symbols:

Where a beacon was also a triangulation station the \triangle symbol only was used to mark the point, with lettering giving the name and characteristic of the light in triangulation name lettering.

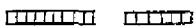
The hydrographic signals are marked with the same style type as the triangulation stations, but of small size, and where the definite point which was chosen on the object was not self evident, a black circle was circumscribed about it.

A smaller circle than the hydrographic signal circle indicates a prominent power line pole. In the case of the pole on San Andreas Island, this is a strongly fixed position being located as a three point fix by Lieutenant Raynor, although the pole was not built until after the photographs were taken. The pole near the Webb Tract Pumphouse should not be used as a hydrographic signal because not enough intersections could be gotten to determine its position exactly, and the pole is very *dim* ~~slim~~ at best.

A circle larger than the hydrographic signal circle was circumscribed about the objects used as three point fixes.

The levees are shown by the usual symbol . In some places old levees are in existence, and in the stream, appearing in the photographs as tule berms, except more brush can be seen. Where these are known to be formerly part of the levee system of an island, they are marked with the lettering "old levee".

Other symbols originated for use in this locality are:

Corn cribs 

Tule barn with thin tule on one side



A different style and size of type was used for each of the following classes of objects:

Hydrographic signals, Triangulation signals and Beacons,
Place names, Topographic features, Names of water features,
Names of Islands.

Other Surveys

The Coast and Geodetic Survey has made no previous surveys of the area covered by this sheet. The Geological Survey Quadrangles, "Jersey" and "Bouldin" 1910, include this area but are lacking in detail and inaccurate in regard to names in use at the present time. Captain Weather, a pilot of the San Joaquin River, has constructed a small scale chart of the delta which is in general use for the names of places and relation of islands. The owners of some of the islands have had plats of their property made showing the canals, ditches and acreage. The Corps of Engineers have recently made (Dec., 1931) a large scale map of the course of the San Joaquin River through this area. Since more detail is available from the aerial photographs than from any of the above sources of information, a general comparison only is possible.

Names

In general, the names furnished by Lieutenant Raynor in his revised list of place names and as marked by him on the Geological Survey Quadrangles, were used when there was any doubt. The following are exceptions to this: (1) Beacon on lower end of Twitchell Island was named Twitchell Island Light in accordance with the U.S.L.H. Light List, rather than Three Mile Slough Light as furnished from the field. (2) The numbers of the camps on Webb Tract being contradictory on the marked quadrangles, the Corps of Engineers map was taken as authority.

Where any doubt was entertained about the name of a landing, simply the word "landing" was used. Where no name was given by other sources for a group of buildings, the name of Captain Weathers map was used, except on Seven Mile Slough, where a certain amount of conflicting information made it advisable to leave several camps unnamed, no other reliable source of information being available at the time.

38° 04.7' = 121° 36.3'
(Sec. H. 6005)

It is suggested that a further check be made on the following: (1) Connection between the names "Washington Slough" and "False River"; (2) Fisherman or Fishermans Slough and Cut; (3) McCormick or McCormach Landing on N. side Twitchell Island; (4) McDonald, Crawford, Munford or Hollenbeck Landing on Sherman Island at Threemile Slough. *See Name Sheet.* McCormack

Landmarks

A list of landmarks for the proposed chart of the San Joaquin River has been submitted by Lieutenant Raynor and is filed as chart letter No. 643 of 1932.

Assistance to navigation on this sheet is afforded by (1) beacons (which are fixed lights on poles), (2) power line poles, (3) tanks and windmills on levees, (4) houses or sheds on levees, (5) lone trees on levees. Only the first two can really be considered as semi-permanent landmarks since the others are subject to change and are not particularly distinctive or prominent. Some difficulty was found in making out the poles, tanks and windmills on the photograph, and the "A" Frames that were suggested by the field party could not be distinguished.

The only steel pole shown on the sheet was built after the photographs were taken and is located on the tip of Andrus Island. It consists of a latticed steel pole 18" square and about 200 feet high, and makes an excellent aid to navigation. The wooden poles are also usually built up of two poles about the same height as the steel poles. These wooden poles are being replaced by the steel ones so their usefulness as permanent landmarks is in question, but the few that could be spotted from the photographs are shown on the sheet.

Remarks

The highwater line, as shown on this sheet, marks the outside edge of the dense tule growth. Where the H.W. is inside this, a note is made on the sheet at that point. A light growth of tule is shown outside the H.W. line. This is repeated because of its bearing in making connections with other sheets.

Venice Island was flooded in June 20, 1932, which is after the photos were taken, and this sheet shows the condition before the flood. When this island is made dry again it is said that at least the main ditches and canals will be as formerly.

All the levees throughout this sheet may be considered as having their sides covered with bushes or trees. It was inexpedient to show this on account of the lack of space on the water side and only where there was a particularly heavy growth or a prominent group of trees was it shown.

The farm road which is shown across Bouldin Island from camp 11 to camp 35 is believed to exist, but a check is being made by the field inspection party.

The isolated sheds or tanks and windmills shown some distance in from the shoreline were located for use as topographic signals.

Respectfully submitted,

J. W. Price

Approved and forwarded.

O. S. Reading
O. S. Reading

REVIEW OF TOPOGRAPHIC SURVEY No. 4686

Title (Par. 56) *Wierssen Landing To Hayes Point, San Joaquin River Delta, California*

Chief of Party *O. G. Leading* ~~Surveyed~~ *Photo plotted* by *J. M. Price* Inked by *J. M. Price*

Army Air Corps AIA Airplane
~~Ship~~

Instructions dated _____

Rec. 12, 1931
Rec. of Photos
Rec. of Compilation Sept., 1932
~~Surveyed in~~

1. ✓ The survey and preparation for it conform to the requirements of the Topographic Manual. (Par. 7, 8, 9, 13, 16.)
2. ✓ The character and scope of the survey satisfy the instructions.
3. ✓ The control and ~~closures of traverses~~ *adjustments of radial phot* were adequate, (Par. 12, 29.) *capt*
as noted under 19.
4. ~~The amount of vertical control that the Manual specifies for contours and lines was accomplished. (Par. 18, 19, 20, 21, 22, 23.)~~
5. ~~The delineation of contours and lines is satisfactory. (Par. 49, 50.)~~
6. ~~There is sufficient control on maps from other sources that were transmitted by the field party to enable their application to the charts. (Par. 28.)~~
7. ✓ High water line on marshy and ~~mangrove~~ *tide* coast is clear, and adequate *shore* *with use of notes* for chart compilation. (Par. 16a, 43, 44.)
8. ✓ The representation of ~~low water lines, reefs, coral reefs and rocks,~~ *tide* and legends pertaining to them is satisfactory. (Par. 36, 37, 38, 39, 40, 41.)
9. ~~Reefs and other important details shown on previous surveys and on the chart were verified. (Par. 25, 26, 27.)~~
There are no previous Coast Survey charts.
10. ~~The span, draw and clearance of bridges are shown. (Par. 16c.)~~
11. ~~Locations and elevations of summits are given. (Par. 19, 51.)~~
12. ~~The tree line was shown on mountains. (Par. 16g.)~~

NOTE: Strike out paragraphs, words or phrases not applicable and modify those requiring it. Paragraph numbers refer to those in the Topographic Manual. Use reverse side for extending remarks.

Note: In the review of this that minor errors were discovered. These errors were corrected on the plates (negatives) and the corrected set substituted for the old copy, Nov. 13, 1933. The old copy was destroyed.

13. ✓ The descriptive report covers all details listed in the Manual, in so far as they apply to this survey. (Par. 64, 65, 66, 67.)
14. ✓ The descriptive report also contains additional information required in aero-topography relative to type of photographs, method of compilation and type of ground control.
15. ~~The descriptions of recoverable stations and references to shore line were accomplished on Form 524. (Par. 29, 30, 57, 67 except scaling of IMs and DPs, 68.)~~ *Descriptions of recoverable stations for this sheet will be submitted on Form 524 by L.A. Kaymer during the hydrographic survey of this area.*
16. ✓ A list of landmarks for charts was furnished on Form 567 and plotting checked. (Par. 16d, e, 60.) *by the field inspection and filed as chart letter #043 (1932)*
17. ~~The magnetic meridian was shown and declination was checked. (Par. 17, 52.)~~
18. ✓ The geographic datum of the sheet is *N.A. 1927* and the reference station is correctly noted. (Par. 34.) *(Unadjusted triangulation)*
19. ✓ ~~Junctions with contemporary surveys are adequate.~~ *Adjustments of the part of this and adjoining sheets were necessary for adequate junctions.*
20. ✓ Geographic names are shown on the sheet and are covered by the Descriptive report. (Par. 64, 66k.)
21. ✓ The quality of the drafting is good. (Par. 31, 32, 33, 35, 36, 37, 38, 39, 40, 41, 42, 45, 46, 47, 48, 49, 50.)
22. ✓ No additional surveying is recommended.
23. ✓ The Chief of Party inspected and approved the sheet and the descriptive report ~~after review by~~

24. Remarks: *Statistics for aerial sheets were required after this sheet was completed. They are as follows: 21 square miles area, 38 miles of shoreline (more than 200 miles to opposite shore), 7 miles of rivers and sloughs (less than 200 miles wide).*
 Reviewed in office by *Frank G. Esquire* *November 28, 1932*

Examined and approved:

K.T. Adams
 Chief, Section of Field Records

L.O. Lobert
 Chief, Division of Charts

James B. Borden
 Chief, Section of Field Work

G. H. Hude
 Chief, Division of Hyd. and Top.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO. 4686

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.

U. S. COAST & GEODETIC SURVEY
LIBRARY AND ARCHIVES

Field No.

DEC 12 1932

REGISTER NO. 4686

Acc. No.

State California

General locality San Joaquin River Delta

Locality Dierssen Landing to Hayes Point

Scale 1:10,000 Date of ^{compilation} ~~survey~~ Aug. 1 to Oct 15, 1932
Plane

~~Instrument~~ Army Air Corps, Fairchild F1A

Chief of Party O. S. Reading

Compiled

~~Surveyed~~ by T. M. Price

Inked by T. M. Price

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

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

Instructions dated....., 19.....

Remarks: This sheet is a compilation by the Radial Line Method of photographs #495-#512 and #569-#586, taken in two flights by a 5 lens camera, Dec. 12, 1931, at 1:15-2:00 P.M. It has been reduced to scale and printed by lithographic process by the Printing Section.

*Projection by T.M. Price Aug. 5, 1932
Projection verified by H.E. MacEwen Aug. 8, 1932
Control plotted by T.M.P. Aug. 9, 1932
Control verified by H.E.M. Aug. 9, 1932
Photographs plotted by T.M.P. Aug., 1932
Sheet inked by T.M.P. Aug.-Sept, 1932*

GEOGRAPHIC NAMES

Survey No. T-4686

H-6005

Chart No. _____

Date: Dec. 13, 1934

HMS

Names approved Dec. 13, 1934.

Harlow Bacon

Diagram No. _____

* Approved by the Division of Geographic Names, Department of Interior.

☐ Not Approved by the Division of Geographic Names, Department of Interior.

R, Referred to the Division of Geographic Names, Department of Interior.

Status	Name on Survey	Name on Chart	New Names in local use	Names assigned by Field	Location
	<u>Sherman Island</u>	U.S.G.S. quadrangle and	other reliable authorities		
	<u>Twitchell Island</u>	"			
	<u>Bradford Island</u>	"			
	<u>Webb Tract</u>	"			
	<u>Mandeville Island</u>	"			
	<u>Venice Island</u>	"			
	<u>Bouldin Island</u>	"			
	<u>Andrus Island</u>	"			
	<u>Potato Slough</u>	"			
	<u>Mokelumne River</u>	"			
	<u>Sevenmile Slough</u>	"			
	<u>a Brannon Island</u>	<i>To agree with T5001</i>	"		
	<u>Fishermans Slough</u>		<i>Position of name given for future reference delete, does not appear on any maps or quadrangles.</i>		<i>38°04' N 121°38' W</i>
	<u>Fishermans Cut</u>	"			
	<u>Short Slough</u>	"			<i>Lon 121-37 1/2 Lat 38-04</i>
	<u>Serpent Slough</u>	"			
	<u>Elk Slough</u>	"			
	<u>Threemile Slough</u>	"			
	<u>Old River</u>	"			<i>see # 6005b</i>
	<u>San Joaquin River</u>	U.S.G.B. 6th Report			
	* <u>Venice Island Light and</u>	Echo Board	Light List,	Pacific Coast, United States, 1934	
	* <u>Sevenmile Slough Light</u>		"		
		See page 2			

GEOGRAPHIC NAMES

Survey No. T-4686
H-6005

Date. Dec. 13, 1934

Chart No. _____

HMS

Names approved Dec. 13, 1934.

Diagram No. _____

Harlow Bacon

* Approved by the Division of Geographic Names, Department of Interior.

☺ Not Approved by the Division of Geographic Names, Department of Interior.

R, Referred to the Division of Geographic Names, Department of Interior.

Status	Name on Survey	Name on Chart	New Names in local use	Names assigned by Field	Location
	<u>Camps in general agreement</u>	<u>Quadrangles and maps</u>			
	<u>McCormack Landing</u> not McCormick		Detailed maps		
	<u>Rosetta Landing</u>	U.S.G.S. JERSEY Quad marked by field party			
	<u>Browns Dairy No.3 Landing</u>	"	"		
	<u>Oulton Landing</u>	"	"		
	<u>Oulton Point Light</u>	"		Light List, Pacific Coast U.S. 1934	
	<u>Oulton Point</u>	"			
	<u>Twitchell Pump</u> OK		"		
	<u>Santa Clara Shoal</u>	"			
	<u>Kentucky Landing</u>	"	"		
	<u>Mackenson</u>		"*		Lat. 38-07 Long 121-41
	* <u>Mackenson</u> on property map				
	<u>Noverd</u>		"		
	<u>Dierssen Landing</u>	"			
	<u>Landing No. 5A</u> OK not on any maps				
	<u>Washington Slough</u> delete				
	McDonald, Crawford, Munford or Hollenbeck Slough on Sherman Island not noted on sheet, because maps do not agree in their location.				
	* to be added	DR for			
	For references consulted see T-4685. HMS.				

Descriptive Report to Accompany
Air Photo-Topographic Sheet No.
4686 of the San Joaquin Delta from
Dierssen Landing to Hayes Point,
California.

See Descriptive Report T-4685 for general report of Field Inspection

General

This sheet is a compilation by the "Radial Line Method" of aerial photographs taken by the Army Air Corps with a 5 lens camera on December 12, 1931 at 1:15 to 2:00 P.M. The photographs are from two parallel flights and are numbered 495 to 512 and 569 to 586, the former being flown in latitude $38^{\circ} 06'$ from longitude $121^{\circ} 41'$ to $121^{\circ} 33'$, the latter latitude $38^{\circ} 05'$, from longitude $121^{\circ} 41'$.
to 121 33

Limits of Sheet and Connection with other Sheets.

The approximate area embraced by this sheet is that part of the San Joaquin River Delta bounded on the north by Sevenmile Slough, on the south by False River, on the west by the San Joaquin River and Threemile Slough, and on the east by the Mokelumne and San Joaquin Rivers.

All the area adjoining this sheet is to be shown on additional sheets to be plotted later. At its southwest corner this sheet is joined along the San Joaquin River by sheet 4685 and its southeast corner by sheet 4688.

Control

The plot was controlled by (1) first order triangulation stations established by Lieutenant John Bowie in 1931, their position being indicated on the photographs by the field inspection party in charge of Lieutenant Raynor, (2) intersections to prominent objects made by the above triangulation party, (3) three-point fixes by theodolite taken by Lieutenant Raynor in 1932 to supplement the established triangulation. Although not of first order accuracy, these latter points are sufficiently well located for plotting purposes and are indicated by red circles on the printed sheet.

Compilation

The compilation was done directly on a 1:10,000 scale projection since a preliminary plot showed the photographs to run fairly uniformly to that scale. Since the celluloid on which the compilation was made was new and green when work was started, the scale of the projection reduced slightly by shrinkage during the time of compilation.

4686a

14 1934

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Form 504
Rev. Dec. 1933
DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY
R. S. PATTON, DIRECTOR

DESCRIPTIVE REPORT

Topographic } Sheet No. 4686a
~~INDEXED~~

State California

LOCALITY

San Joaquin River Delta

Dierseen Landing to Hayes Point

1934

CHIEF OF PARTY

L.P. Raynor

4686a

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO. 4686A

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-Number

REGISTER NO. 4686 A **4686A**

State.....California.....

General locality...San Joaquin River Delta.....

Locality...Dierseen Landing to Hayes Point.....

Scale...1:10,000..... Date of survey...June 21....., 1934

Vessel.....

Chief of Party.....L.P. Raynor.....

Surveyed by.....F.G. Erskine.....

Inked by.....F.G.E.....

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

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

Instructions dated....., 19.....

Remarks: Corrections and additions applied to original.....

.....survey.....For additional data see Descriptive Report.....

DEC 11 1934

Descriptive Report to Accompany
Air Photo Topographic Compilations No. T-4686A
(to be included in report of T-4686)

App. No.

Dierseen Landing to Hayes Point, San Joaquin River Delta, California.

This sheet contains corrections (shown in red) to the original survey of this area.

Sources of Information:

Hydrographic survey #6005; plane table revision sheets 24a and 25a (Air Photo Section files) and descriptive report (included in this report); chart letters 630 (1934) and 631 (1934); descriptive of recoverable stations submitted on form 524; blue prints #25704 and #25703.

Compilations:

The plane table revision corrections (24a and 25a) were applied by *N.K. Alhertson* and checked by *D.H. Benson* *N. 7-9-34*

The blue prints contained a few additional geographical names.

Most of the changes and additions mentioned in the hydrographic survey were covered by the revision sheets. In Fisherman's Slough an island and "Cloth Signal" were deleted and another island was located by the hydrographic survey.

Remarks:

Numerous stations were located by the photo plot for hydrographic control all of which appear on the original file copy. Some of these stations were not used as control and as they were neither prominent nor recoverable, they are not shown on the A sheet. The following stations (in addition to the tanks, gables, etc.) were used as hydrographic control under a name different from that given on the original survey.

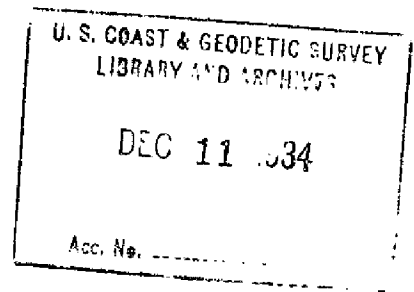
A Sheet Name	Approx. Position	Original file copy name
ME 7 Flag Pole	38°-06 1/5', 121°-33 1/2'	Flag Pole
FE 7	38°-06 1/5', 121°-38 1/2'	End of Syphon

Respectfully submitted,

Frank G. Erskine

Frank G. Erskine.

September 26, 1934.



DESCRIPTIVE REPORT

to accompany

REVISION OF PORTIONS OF TOPOGRAPHIC SHEETS 4686-E & W.
(25a) (24a)

AUTHORITY:

The authority for the work is contained in Director's letter 22LE 1990, third paragraph, Supplemental Instructions of September 2, 1933, and Director's letter 22MG 1990 (17) 3/16/34.

GENERAL NOTES: SHEET 4686-W

On tracings of USED work the following items on the air photo compilation were questioned:

1. Building near triangulation station Brad.
2. Twitchell Island, from opposite Camp 7 on Bradford Island to Culton Pt. Light., Buildings, roads, and shoreline.
3. Camp 7, Bradford Island; Buildings.
4. Camp 5, Bradford Island; Buildings, lane on ditch, retaining wall and shoreline.
5. Sherman Island about 840 meters north of Dierssons Landing; building.
6. Camp 8 $\frac{1}{2}$, Webb Tract; buildings.
7. Twitchell Island, between Brown's Dairy and Rosetta Landing; buildings.

SHEET 4686-E.

Items questioned on this sheet by USED tracing were:

1. Piling around west end Bouldin Island.
2. Buildings and shoreline on Andrus Island between Wulff's Landing and San Andreas Landing. Also shoreline of tule berms off shore from Andrus Island within limits mentioned.

In order to verify any discrepancies, a planetable revision was begun on May 3, 1934 and continued on May 4, 10, 11, 12, 14, 15, 16, 17, 18, and 21. The field work was done by John C. Bliss, Observer.

METHODS, CONTROL:

The field work was done by planetable traverse using a standard USC & GS. planetable outfit and an aluminum sheet containing the air photo compilation. Scale 1:10,000.

Theodolite three point fixes together with known triangulation stations were used for control. The geographic positions of control points used are given on an affixed sheet.

FIELD WORK; SHEET 4686-W.

1. Occupied triangulation station "BRAD" and found that small building noted on U.S.E.D. tracing, was not located on air photo compilation. This was probably due to the fact that the building was almost entirely hidden by foliage. The building was plotted on the air photo compilation.

2. Beginning at theodolite three point fix "TWITCHELL", a plane-table traverse about seven-eighths of a mile long was run toward Oulton Point Light. Buildings near Twitchell were found to be in error and relocated, and a small change made in the County dirt road that joins the levee road near this point. Some piling on highwater line at "TWITCHELL" was also noted.

About 310 meters southeast of "TWITCHELL" another group of buildings was relocated, the air photo compilation being in error 5 to 10 meters.

About 630 meters southeast of "TWITCHELL" another group of buildings was relocated, the photo being in error 2 to 8 meters and two buildings being left out completely. This was undoubtedly due to the large trees around the buildings.

About 130 meters west of Oulton Point Light another small group of buildings was relocated, the air photo compilation being in error up to 10 meters.

The shoreline along the entire length of the traverse checked the air photo compilation very closely. A few scattering stretches of piling on high water line were noted. The traverse was checked into triangulation station Oulton Point Light with a closing error of about 2 meters.

Beginning at theodolite three point fix "TWITCHELL" a traverse about 620 meters long was run west to a group of buildings. These were found to be in error about 8 meters and were relocated. Three additional buildings were located. The shoreline was checked and found to coincide with the air photo compilation. Checking back to "TWITCHELL" the traverse closed flat.

3. Obtained position by off-setting from west windmill at Camp 7 Bradford Island. This windmill had been previously located by theodolite cuts. The buildings around the west windmill at Camp 7 were relocated, the air photo compilation being in error up to 10 meters. Two additional buildings were located. The buildings around the east windmill were also relocated, being in error up to 8 meters.
4. Beginning at three point fix "BRADFORD, Camp 5," a traverse of about $3/4$ of a mile was run south to sheet limits. All the buildings at Camp 5 were relocated and several additional ones located. The discrepancies and omissions here were probably due to the heavy growth of trees in this area. Two check shots were taken on the ditch shown on the aerial compilation and it was found to be correct.

The vertical board bulkhead along the shoreline of Bradford Island was located and was found in most cases to be outside the high water line as shown on the air photo compilation. For all navigation purposes, the bulkhead should be considered as the highwater line.

At the sheet limits a traverse point was marked for transfer to the next sheet south, No. 4685. The traverse was later continued and checked into a theodolite cut at Camp 32, Bradford Island with a closing error of about 3 meters.

Beginning at three point fix "Bradford Camp #5" a traverse of about $\frac{1}{2}$ mile was run north to the end of the vertical board bulkhead along the shoreline of Bradford Island. The bulkhead was located and found for the most part to be outside the highwater line as shown on the air photo compilation. However for all navigation purposes the bulkhead should be considered as the high water line. The traverse was checked by a planetable three point fix and found to be correct to a meter.

5. The questioned building on Sherman Island was located by theodolite cuts by E. M. Buckingham, Surveyor, and later plotted on the air photo compilation.
6. Obtained a position at Camp $8\frac{1}{2}$, Webb Tract, by offsetting from a pipe on tank previously located by theodolite cuts. Relocated the buildings at Camp $8\frac{1}{2}$ although they were substantially correct. The two questioned buildings on the U.S.E.D. tracing were probably an outdoor toilet and a portable corn crib.
7. Due to lack of position near building in question (between Brown's Dairy and Rosetta Landing) a visual inspection was made and the questioned building found to have been omitted from the air photo compilation. Using an adjoining building located on the aerial compilation, the omitted building was located by tape and plotted on the sheet.

FIELD WORK; SHEET 4686-E.

1. Beginning at a marked theodolite three point fix at Camp 1 on Bouldin Island, a traverse about 1 mile long was run north toward Bouldin Island Latticed Steel Pole (1932). Three buildings at Camp 1 were relocated, being slightly in error. The piling not shown on the air photo compilation was found to be in place. The piling was carefully rodded and located on the sheet. For the most part the piling was outside the highwater line as shown on the air photo compilation. However, since the photographing of this area the space between the highwater line and the piling has been filled with debris, brush, soil, etc. Therefore, the piling line at present is also the highwater line.

After completing the location of the piling a check of the shoreline was continued. From a point about 240 meters west of Bouldin Latticed Steel Pole (1932) to a point about 170 meters east of the same steel pole the highwater line was found to be in error up to 14 meters. This check on highwater was continued only until a junction with the original compilation was effected, as shown on the sheet. The traverse was checked into Bouldin Island Latticed Steel Pole (1932) with a closing error of about $3\frac{1}{2}$ meters.

2. Beginning at a marked theodolite three point at Wulff's Landing on Andrus Island a traverse of about $1\frac{1}{4}$ miles was run toward San Andreas Landing.

The buildings at Wulff's Landing were relocated and the tule berms in Seven Mile Slough were checked and found substantially correct. All buildings encountered were relocated where necessary and about 600 meters east of Wulff's Landing the buildings questioned on the U.S.E.D. tracing were checked. Four buildings were discovered instead of the two shown on the air photo compilation. The two shown had to be relocated as they were in error about 10 meters.

The highwater line on Andrus Island was found to check the air photo compilation very closely, no discrepancy greater than 5 meters being discovered. The tule berms off shore were found to be substantially correct, the only changes made being in the line of the thin tule on the south side of the berms and in some of the minor tule islands.

The traverse was checked into a theodolite three point fix at San Andreas Landing with a closing error of about 2 meters. Several buildings, not shown on the aerial compilation, were located at this point, it also being necessary to relocate those shown.

3. For the purpose of checking the high water line of the Mokelumne River in the vicinity of Denicke Landing, a traverse about $\frac{1}{2}$ mile long was run south from a theodolite three point fix at Denicke Landing. The buildings at Denicke Landing were in error and had to be relocated. The same applies to the buildings at Camp 7, Bouldin Island, several buildings not shown on the aerial compilation being located.

All the high water line traversed was found to check the aerial compilation very closely. All hydrographic signals encountered were also located. Their planetable positions are shown on an affixed sheet. The final traverse position was checked by a planetable three point fix and found correct to a meter.

MISCELLANEOUS:

All traverses on these sheets closed within the allowable limit of error and the work can be considered correct within these limits. The air photo compilation was very good on highwater lines of Islands and tule berms, but the buildings seemed to be consistently in error. Errors of 10 to 15 meters in buildings being common.

John C. Bliss
John C. Bliss
Observer.

Stockton Calif
June 21, 1934
Approved S. P. Rayner
Chief Party

ADDITIONAL NOTES, SHEETS 4686-E. & W.

There was some discrepancy in the projections on both sheets. The error amounting to about four meters on sheet 4686-W. between Longitude $121^{\circ} 35'$ and $121^{\circ} 36'$. Therefore, a new projection was made by Earl M. Buckingham, Surveyor, and checked by S. S. Whitehead, Draftsman. It was based on Longitude $121^{\circ} 36'$ and Latitude $38^{\circ} 05'$. The new projection is shown in black.

The error in projection on 4686-E. was of slighter degree and the projection was not redrawn.

The latticed steel transmission towers Nor, located on the S.W. end of Bouldin Island and Ven, located on the N.W. end of Venice Island, were located by planetable cuts. The overhead cable clearance, as determined by range finder, was obtained from the hydrographic notes and printed on the sheet. The overhead cable clearance of the Fisherman's Cut Wood Poles, determined by range finder and obtained from the hydrographic notes, was also placed on the sheet.

The overhead cable clearance of the latticed steel poles on Bouldin and Andrus Islands was printed on the sheet from datum previously furnished by the U.S.E.D.

PLANETABLE POSITIONS SCALED FROM ALUMINUM SHEET

4686-E

Signal	Lat.	D.M.	Long.	D.P.
M.W.1	38° 07'	(1645.2) ✓ 204.8 ✓	121° 35'	(1216.2) ✓ 245.4 ✓
M.W.2	38° 06'	(20) ✓ 1830.0 ✓	121° 35'	(1271) ✓ 191.0 ✓
M.W.3	38° 06'	(244) ✓ 1606.0 ✓	121° 35'	(1321) ✓ 141.0 ✓
M.W.4	38° 06'	(431) ✓ 1419.0 ✓	121° 35'	(1409.5) ✓ 52.5 ✓
M.W.5	38° 06'	(590) ✓ 1260.0 ✓	121° 34'	(41) ✓ 1421.0 ✓
M.E.2	38° 07'	(1797) ✓ 53.0 ✓	121° 34'	(108) ✓ 1354.0 ✓
M.E.3	38° 06'	(266) ✓ 1583.0 ✓	121° 34'	(129) ✓ 1333.0 ✓
P.E.7	38° 05'	(156) ✓ 289.0 ✓	121° 34'	(1300.5) ✓ 161.5 ✓

4686-W

F.E.8	38° 05'	(165) ✓ 199.0 ✓	121° 38'	(944) ✓ 518.0 ✓
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SHEET 4686-W

GEOGRAPHIC POSITIONS

The geographic positions of control points used on this sheet are given below. They are all located by third order triangulation or better.

Designation	Lat.	D.M.	Long.	D.P.
3 pt. fix "Twitchell"	38° 05' 45.82"	(437.2) 1412.8	121° 39' 00.31"	(1454.5) 07.4
Windmill Camp #7 Bradford Island	38° 05' 32.90"	(835.5) 1014.4	121° 39' 28.57"	(766.0) 696.2
3 pt. fix Bradford Camp #5	38° 04' 35.463"	(756.6) 1093.3	121° 40' 30.504"	(718.9) 743.3
Pipe on tank, Camp #8 ¹ / ₂ Webb Tract	38° 05' 04.861"	(1700.2) 149.9	121° 38' 21.684"	(933.8) 528.4
Light, near Fisherman's Cut	38° 05' 08.135"	(1599.3) 280.7	121° 38' 25.305"	(845.7) 616.6
Brad 1931	38° 05' 08.735"	269.3	121° 38' 47.210"	1150.5
Webb 1931	38° 06' 03.413"	105.2	121° 36' 18.635"	454.0
Fisherman's Slough W. Wood Pole (Bradford Island) 1932	38° 04' 31.72"	(871.9) 978.0	121° 38' 52.19"	(190.4) 1272.0
Fisherman's Slough E. Wood Pole (Webb Tract) 1932.	38° 04' 31.65"	(874.1) 975.8	121° 38' 43.27"	(407.8) 1054.6
Sherman 1931	38° 05' 02.878"	88.7	121° 41' 05.763"	140.5
Culton Point Light	38° 05' 23.39"	721.2	121° 38' 09.00"	2193

SHEET 4686-E

Bouldin Id. Latticed Steel Pole 1932	38° 05' 41.66"	(565.4) 1284.5	121° 33' 59.34"	(16.1) 1445.9
Latticed Steel Pole Andrus Island 1932	38° 05' 53.52"	(199.8) 1650.1	121° 34' 02.86"	(1392.3) 69.7
Elk 1931	38° 04' 29.636"	(936.2) 913.7	121° 34' 23.173"	(897.8) 564.8
Webb 1931 (See above)				
3 pt. fix Wulff	38° 06' 28.918"	(958.3) 891.7	121° 36' 42.533"	(425.8) 1036.4
3 pt. fix Denicke Landing	38° 07' 06.264"	(1657.0) 193.0	121° 35' 08.603"	(1252.1) 209.5
3 pt. fix San Andreas	38° 06' 12.788"	(1455.7) 394.3	121° 35' 26.250"	(822.4) 639.6

NAMES: There are no charts covering the area of this project except chart 5534 at the junction of the Sacramento and San Joaquin Rivers. The following maps filed as Blueprints were furnished by the field party with corrections made from field examination to show the names in local use and have been used in making the corrections to compilations on this project.

Capt. Weathers Map (1931)--BP.- 25708

U.S.G.S. Quadrangles BPs. --25702 to 25707

(See also chart letter No. 698 (1932))

See Des. Report T4686

Name lists are now being prepared under Mr. Bacon's Direction and will be attached at the back of the descriptive reports when completed. Any changes in names indicated by the name lists will be applied to the compilations at the next printing.

Frank G. Eskue

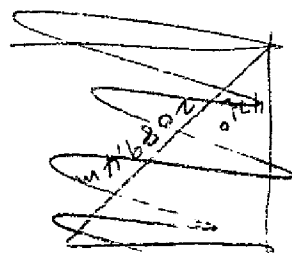
November 26, 1934

*Applied to drawing of Chart 5527
Dec. 29, 1934 - J.W.*

Oulton Pt. Light.

The position of Oulton Pt. Light as shown on T 4686a, Letter 631 (1934) and Triangulation in California V page 17 appears to be erroneous. Notice to Mariners 16 (1933) describes it as having been moved 330 yds - 52° about Apr. 7, 1933. This position is also thought to be erroneous. Bp 26302 shows it in what is thought to be its true position and this position is the one used and applied to the drawing of the new chart 5527

JTWalker
Dec 28, 1934



FILE CHECK

7267) 100L

Date of document.....

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Date *Nov 8, 1934*.....