

5027

Rec'd June 20, 1934

U. S. COAST & GEODETIC SURVEY  
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Ed. June, 1928

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

R. S. Patton, Director

State: California

DESCRIPTIVE REPORT

Topographic

~~Hydrographic~~

Sheet No.

5027

LOCALITY

Sacramento-San Joaquin Delta

Byron California.

19 33

CHIEF OF PARTY

L. P. Raynor.

U. S. GOVERNMENT PRINTING OFFICE: 1928

5027

Applied to drawing of Chart 5527

Jan 11, 1935 - J.Y.W.

166-SC "A" Appld. a.g.H. 3-18-66

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

REG. NO.

AIR - PHOTO  
TOPOGRAPHIC TITLE SHEET

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

Field No. T-5027

REGISTER NO.

State California

General locality Sacramento- San Joaquin Delta

Locality Byron

Scale 1:10,000 Date of photographs December 15, 1933.  
Date of compilation December 15, 1933.  
Date of survey 1933

Vessel Army Air Corps F1A airplane

Chief of party Lieut. L. P. Raynor

Photographs plotted by Neil R. McLeod *N.R. McLeod* Dec. 15, 1933  
Surveyed by K. B. Walker

Inked by K.B. Walker

Heights in feet above \_\_\_\_\_ to ground to tops of trees

Contour, Approximate contour, Form line interval \_\_\_\_\_ feet

Instructions dated August 12, 1933 and September 2, 1933

Remarks: Compilation of aerial photographs Nos. SS 914-9294/995-1012 inc.  
202-1012

Reduced to scale and printed by photo lithographic process

Polyconic projection by	Neil R. McLeod	<i>N.R. McLeod</i>	Nov. 13, 1933
Projection verified by	K. B. Walker		Nov. 13, 1933
Control plotted by	Neil R. McLeod	<i>N.R. McLeod</i>	Nov. 14, 1933
Control verified by	K. B. Walker		Nov. 15, 1933.

## JOB SHEET

T-5027

KIND OF WORK	DONE BY	DATE COMPLETED
Polyconic Projection	(Resigned) Neil R. McLeod	November 13, 1933
Projection Verified	<i>K.B. Walker</i> K.B. Walker	November 13, 1933
Control Plotted	(Resigned) Neil R. McLeod	November 13, 1933
Control Verified	<i>K.B. Walker</i> K.B. Walker	November 14, 1933
Compiled in Pencil	(Resigned) Neil R. McLeod	December 15, 1933
Inked	<i>K.B. Walker</i> K.B. Walker	January 20, 1934
Hachures and Symbols	<i>S.S. Whitehead</i> S.S. Whitehead	February 3, 1934
Proofreading	<i>T.P. Pendleton</i> T.P. Pendleton	February 14, 1934
Lettering Attached Various Members of Party		February 26, 1934
Descriptive Report	<i>S.E. Lane</i> S.E. Lane	February 26, 1934



PROJECT NO. H.T. 153

DESCRIPTIVE REPORT

To Accompany

SHEET NO. T-5027, BYRON, CALIFORNIA

L. P. Raymer, Lieut., C.& G.S., Chief of Party

GENERAL

This project consists of ten sheets, numbered T-5027 to T-5029, inc., T-5035 to T-5040, inc., and Sheets Nos. "A" and "B". The layout of sheets and photo flights is shown on the attached sketch.

These sheets were prepared at a scale of 1:10,000 in accordance with the Director's letter dated August 12, 1933, 22AH 1990, and supplemental instructions dated September 2, 1933, 22 RS 1990.

Compilation was done in Stockton, California from photographs secured by the War Department. The photo compilation party consisted of S.B.Lane, Neil R. McLeod, W.J.Mignola, K.B.Walker, and S.S.Whitehead, with T.P.Pendleton as Chief Photo Compiler.

DESCRIPTION OF THE AREA

This project covers that portion of the delta of the San Joaquin River which lies south of latitude 37 - 56 - 10 and 37 - 56 - 00 . It is made up of a series of islands and that portion of the main land which is immediately adjacent.

The islands are low and flat, rarely exceeding an elevation of five feet above mean sea level. The land immediately adjacent slopes gradually upward from the river.

The islands are separated by a network of river channels, sloughs, and artificial canals. The larger canals are built to assist in the reclamation of swamp lands by draining away surplus water. They also provide useful channels for river steamers and smaller craft.

The river channels, sloughs, and large canals are, in general, confined between levees which have been built as part of the work of reclamation. These levees vary in height, but rarely exceed twenty feet above the level of the water.

The banks of the streams are relatively steep and the tide range is small. For this reason no attempt has been made to correct the shore lines as shown on the photographs for the stage of the tide at the time the pictures were taken.

In many places, particularly along the southern and western boundaries of the project, water for irrigation is pumped from the rivers or sloughs into canals located on higher ground, from which it is distributed by gravity.

Pumps and siphons are located at frequent intervals along the levees. Some of them are used to draw water for irrigation from the rivers or sloughs, others to dispose of surplus water into the rivers or sloughs. Pumps which furnish large volumes of water for irrigation districts

have been so marked. No attempt has been made to differentiate between drainage and irrigation installations in the case of the smaller systems. In some cases pump-houses have been shown even though they appear to be abandoned. This has been done as they furnish valuable marks for the hydrographic party.

Large areas of this project are provided with both drainage and irrigation ditches and canals. The purpose of the more important of these ditches and canals has been marked, but no attempt has been made to differentiate between them in the case of the smaller installations, nor to indicate when two ditches connect and when they cross at different elevations. It is believed to be impractical to show too much detail in regard to these small ditches, as some of them may be changed from year to year as the crops are rotated.

Tules are very prolific throughout this area. Many canals shown by the photographs as choked with tules have since been cleaned out, while others which were clean when the pictures were taken have since become overgrown. For this reason the presence of tules has been indicated only when their presence was believed to be more or less permanent, or when there was some other definite reason for doing so.

All land not otherwise marked is cultivated, or subject to cultivation. All land not suitable for cultivation due to alkaline or other conditions has been so marked.

All structures of any importance which are within a distance of 250 meters of a navigable stream or slough have

been carefully located on these sheets, when they are clearly defined on the photographs. No attempt has been made to locate buildings obscured by trees or located at a greater distance from water than that indicated above.

In some cases it has been found necessary to exaggerate slightly the distance between the water line and the top of the levee to secure room enough to show levee road, hachures, and other detail without crowding.

Levees are frequently moved due to the action of the current. The necessary corrections have been made in all such cases which have come to the attention of the compilation party.

#### DESCRIPTIVE REPORT OF FIELD INSPECTION PARTY

The following is a copy of the report submitted by Lieut L. P. Raynor for this area.

#### DESCRIPTIVE REPORT

#### AIR PHOTO FIELD INSPECTION

SOUTH OF 37 - 56

PROJECT NO. 98 H. & T.

#### AUTHORITY, LIMITS, METHOD OF INSPECTION, DATES

The authority for the work is contained in INSTRUCTIONS of March 10, 1932 and letter of March 17, 1933, 22 LE 1990. This report covers the field inspection of the five lens aerial photographs of the Sacramento and San Joaquin Delta below latitude 37 - 56, taken in December 1931 and January 1932.

The field work in this area was started in March 1933 and completed in June 1933. All the inspection was made by C.M. Berry, hand-observer, and by R.E. McGowan, hand, using truck for transportation. The Chief of Party supplemented this work by two boat trips for the purpose of spotting any detail which might have been missed due to lack of roads on the levees adjacent to the water ways, and to note each overhead power line crossing. These boat trips covered the San Joaquin River from Borden Highway bridge to the limits of the air photographs, Middle River, Old River, Italian Slough, and the Victoria and Grant Line Canals.

#### CONTROL

An attempt was made to furnish control points in each A, B, and C print at every tenth picture, and also at the beginning and end of the flights. The control consists of the first and second order triangulation stations located by J. Bowie in 1931, which were carefully spotted on the pictures. In addition numerous wooden and steel power line poles and towers were located by occupying the first order stations, and also three point fixes near identifiable objects were located by triangulation methods. In some cases short, unchecked traverses were run with three hundred foot tape to detail identified in the pictures. In the case of three point fixes, a fourth object was used as a check on the work. Several of the three point fixes were marked and given a name in the computations and results. The intersection stations were located with a check when possible. The computations of the marked three point fixes and the intersection stations were checked by some other than the original computer. In case of the unmarked three point fixes no checks except that furnished by the side checks were made. All lists of directions were checked in any case. Besides the control furnished by the points themselves, the direction of railroad or highway where a set-up was made has also been observed. Those directions should help to oriente the pictures, and are found on the Lists of Directions of the three-point fixes. The Western Pacific Railroad is a straight line between fixes 1066B and 1066C. The three lines of steel transmission towers southwest from triangulation stations "San Joaquin River, west of French Camp, Steel transmission towers" 1933, are straight until the first trio of towers just northeast of the road leading to Mowry Bridge over Middle River. While this latter trio of towers were not located by triangulation, they are so close to the triangulation stations, "Near Mowry, tallest of north and south trio of transmission towers" 1933 that they can be accurately located and the azimuth of the above lines determined.

## GENERAL NOTES, TULE, CULTURE, HIGH WATER LINE

On both sides of all the waterways are levees from eight to fifteen feet in height, by estimation, above Mean High Water. The outer slopes of the levees are so great that, with the small range of tide, the high and low water lines are nearly coincident. A narrow growth of tule from two to five meters in width exists in front of some of the levees as noted on the photographs. In all the waterways tule patches and marshes appear. Except where otherwise noted, the edge of the tule marsh is a definite line, which should be shown as the mean high water line for purposes of navigation. The elevation of the tule marshes varies considerably, but is about the mean high water line. Where bushes are seen growing in the marshes, it undoubtedly means that this particular spot is at or above the high water mark. The points of some of the islands have been cut off in straightening out the levees, and these points soon revert to tule marshes, around one side of which the old levees can be readily traced. What is known locally as tule is a tall aquatic growth shaped much like a rapier, with clusters of buds on the end in the summer. It grows usually very thickly, and from four to six feet high. There is also a flat-leaved plant, which appears to be flag, or cat-tail, to which the word tule may be applied. Both plants grow luxuriantly in the drainage canals and ditches as well as in the sloughs. To prevent clogging of ditches as well as excessive use of water, the plants have to be removed periodically, from the cultivated areas. The outside, and sometimes inside banks of the levees, have a thick growth of willows. On the levees around the islands in the lower part of this area, those trees are usually cut down after one or two years growth.

The cultivated islands in the lower or down stream part of this area were in most cases, tule marshes, which have been reclaimed by means of the levees surrounding them. This peat land shrinks greatly as it dries, so that the elevation of the cultivated areas inside the islands is several feet below Mean Lower Low Water in most cases. This makes it possible to irrigate the land by means of syphons taking water from the adjacent sloughs. The pumps that have been noted on the photographs are used for taking out the surplus water from irrigation operations, or that due to rains. They may if necessary be used as syphons when a large amount of water is needed quickly. The peat land ignites very readily, and once started, a fire burns until the water table is reached or the land is flooded. It is the practice of some of the large land owners to burn the land periodically for the potash that forms, and this as well as the shrinkage in the drying of the land has lowered the level of the cultivated areas.

## CROPS

The principal crops showing on the photographs are corn, barley, sugar beets, alfalfa, asparagus, potatoes, onions with some few orchards. A large mint acreage is in the southwest corner of Victoria Island, with a distillery for extracting the juice of the plants. Most of the crops are rotated each year, but alfalfa which is cultivated in one area for seven or eight years, and asparagus which may last much longer are fairly permanent.

## DETAILED DESCRIPTION

Byron Tract - The private dirt road on the levee has been indicated on the pictures. The east side of this tract is of peat formation, and is irrigated by syphons, the pumping plant on Indian Slough being being to take water from the tract if necessary.

Orwood Tract - This is also of peat formation and irrigated by syphons. Private dirt field roads are indicated. Just north of the Santa Fe railroad tracks, and in the railroad right of way, is a private dirt road leading from Werner to Orwood. This tract can only be reached by land by road from Bixler. In the northwest corner of the tract is gun club, operated in winter during the open season on ducks. Part of the ground of the club is flooded in winter as feeding places for ducks.

Woodward Island - is reclaimed tule marsh, with the entire area under cultivation except as noted on the photographs. A heavy growth of willows is seen on the levees. At present the island can only be reached by boat. A narrow growth of tule is in front of most of the levees.

Upper Jones Tract - is reclaimed tule marsh subject to burn steadily if ignited by accident or design, and is irrigated by syphons taking water from Middle River and Trapper Slough, as is the Drexler Tract.

Following up Old River, Victoria Island is reclaimed tule marsh and irrigated by syphons. Private road follows top of levee, with several farm trails as noted. The Borden Highway runs across the island between two canals. As noted previously there is a large acreage devoted to mint raising with distillery located nearby. Widdows Island is of peat formation and was once a part of Victoria Island and is still owned by the same parties. The tule island to the south of Widdows Island has an old levee covered with eucalyptus trees, which shows plainly in the photographs.

Coney Island is of peat formation and irrigated by syphons.

It can only be reached by boat or private ferry, operated by hand power by means of a cable stretched across the river. The ferry is located just above the East and West Transmission poles, 1931 triangulation stations on Old River. The north of two large tule marshes in Old River, just northeast of Coney Island, has a mud flat bare at low water, but with tule patches showing at high water as indicated on 1028C

Clifton Court Ferry, a public ferry operated by cable and gasoline engine, has been indicated just above Coney Island and across Old River.

A power line crosses Old River, Italian Slough, and Grant Line Canal at their junction by means of the four towers which show clearly on the pictures and the northeast of which is a triangulation station located in 1933. This power line, on wooden poles, follows along the toe of the north levee of the Grant Line Canal, until it eventually joins with and becomes the west line of three lines supported on steel transmission towers running northeast, toward Stockton.

Passing up Old River, beyond its junction with Grant Line Canal, the banks are lined with willow and cottonwood trees, of considerable size. The practice of cutting the willows along the levees, after they have had a few years growth, almost universal in the lower Delta Islands, is apparently not observed here. The trip through these waters can only be made with shallow draft boat, but is very beautiful and interesting. At several places, fences seem to have extended well out into the channel at some time. As indicated on 1142C et al, fence posts were struck with boat drawing  $2\frac{1}{2}$  feet, with tide at about MHW. The bridge over Old River at Naglee School is a fixed steel bridge. The wooden piles which evidently supported the former wooden bridge were cut off at about low water mark, and boats passing under the bridge should do so with caution. Old River ends at the junction with Sugar Cut (Sugar Canal) and Tom Paine Slough. Sugar Cut was made for the barges bringing the sugar beet crop to the factory of the Holly Sugar Company, located about  $2\frac{1}{2}$  miles north of Tracy, and at the south end of the cut. A double line of tall steel transmission towers carries power lines across Tom Paine Slough, Salmon Slough, and Paradise Cut, near their junction. The ten tall steel towers carrying the power lines should be located as landmarks. A power line supported by wooden poles crosses Titus Canal as shown on 1138A. There is a trestle bridge (wooden) and foot bridge suspended by steel cable, across Titus Canal, which should be plotted. Only small craft can pass under either of them.

Grant Line Canal and Fabian and Bell Canal - The levees protecting Union Island on the north and the Fabian Tract on



the south, are from fifteen to twenty feet high and were apparently built to protect these tracts from inundation in floods of former years. The tule marsh, cut through in several places, separates the two canals. It has a scant growth of bushes and definite edge which should be shown as high water line. From about a mile west of Grant Line Canal Bridge, spoil has been placed on the tule berm forming narrow, low sandy island, on which trees and shrubs are seen and which are sometimes used for pasture of goats. The bridge over Grant Line Canal is a steel swing bridge, described in List of Bridges. About one mile east of this bridge is an overhead power line crossing supported by wooden poles and noted on 1139C

Victoria Canal and North Canal -- These canals are separated by the original tule marsh through which openings have been cut at intervals. Several mud flats have been indicated in the pictures. No spoil has been placed on this marsh, and it remains in original condition. It has a definite edge which is to be shown as the high water line.

Middle River -- Between Victoria Island and the Upper Jones Tract, are many tule marshes, with scanty growth of bushes. All have a definite edge to be shown as high water line. Power line crosses on three wooden poles which have been located by triangulation in 1933. The data on Borden Highway Bridge over Middle River, can be found in List of Bridges. About  $\frac{3}{4}$  of a mile beyond Fish Camp Landing is an overhead power line supported by wooden poles as indicated. The Williams Bridge over Middle River is a steel swing bridge and notes on it are submitted. Mowry Bridge over Middle River is a fixed bridge, and the river is shallow from this point on. About  $\frac{1}{4}$  mile above the Mowry Bridge is a power line crossing supported by wooden poles as indicated on 1099B. A short distance beyond this point is a triple power line crossing supported on tall steel transmission towers, which should be shown as landmarks. Beyond here as far as the junction with San Joaquin River, the water is shallow, the river is narrow, and sides of levees are covered with overhanging trees.

San Joaquin River -- San Joaquin River above Rough and Ready Island, is used to great extent by barges carrying sand and gravel, and to a smaller extent other cargos. A new bridge has just been completed about 1000 feet down stream from the Garwood Ferry Bridge. The road has not yet been opened to traffic, but when the new bridge is in operation the Garwood Bridge is to be abandoned. A double power line crossing supported by wooden poles is shown at the old Garwood Ferry Bridge. Just due east of French Camp there is a triple crossing of the river, supported by tall steel transmission towers. The northeast trio of towers is located by the 1933 triangulation. Brandt

Bridge is described in the List of Bridges. Water for irrigation along the San Joaquin River is pumped from the river, the land in back of the levees being too high for use of syphons. The Southern Pacific Bridge, the Highway Bridge, and the Western Pacific Bridge over the river near Mossdale have been described in the List of Bridges. Overhead power line crosses on wooden poles just above the highway bridge, while just below the Western Pacific Bridge are two crossings supported by steel transmission towers.

Roberts Island -- Union Island -- Fabian Tract -- These tracts and practically all the other areas which have not been specifically mentioned heretofore are higher than the islands reclaimed by tule marshes and in consequence are irrigated by pumping from nearby sloughs in most cases. Pumping from wells is resorted to in the land further back from the sloughs. The soil becomes more salty and will not burn like the peat land in the lower delta.

#### LANDMARKS

List of landmarks which appear in this area is submitted on form 567

#### NAMES

An attempt has been made to give camp numbers, where these are used. This has been done on Victoria Island, and blue print of Upper Jones Tract has already been sent to Washington. The names on the Geological Survey maps should be used unless otherwise noted. The names on the Weather Map should be used with some caution as they are apparently changed with each change of ownership of a ranch or camp. Road names are to be gotten from the San Joaquin County map furnished by the County Surveyor, or from the Contra Costa Map furnished by the County Surveyor of that county. *AB*

#### FERRIES, BRIDGES, OVERHEAD POWER LINES, CABLE CROSSINGS

The only public ferry operated in this area is at Clifton Court Ferry, while a private ferry is run to Coney Island as previously noted. The ferries are operated by means of cables stretched from shore to shore, and boats should not pass unless the ferry is at the landing and the cable is slack. All bridges have been spotted on the photographs and notes on the clearances as obtained from List of Bridges over Navigable Waters of the United States, 1927 Edition, and corrected by notes from U.S. Engineer office in Stockton have been sent to Washington, and a copy is attached to this report. Submarine cable crossings have been indicated where they could be spotted from signs on the banks, and should be shown on the topographic

sheets. It is probable that several crossings are not noted, however. Overhead power line crossings have been indicated on the photographs and should be plotted. A list (partial) of these crossings has been furnished by the U.S. Engineer office in Sacramento, and sheets attached to them specify more definitely the locations in question.

#### GEOLOGICAL SURVEY TRIANGULATION STATIONS

The first order triangulation did not tie in with enough stations of the Geological Survey to furnish a basis for comparison with the two schemes of triangulation. Three of the stations were located by intersection from stations of the 1931 work, and one station by three point fix, in connection with the field inspection of the photographs. The differences between the location by the Geological Survey and the recent work, are practically the same for three of the stations, but differ greatly on the fourth. It is possible that by applying the differences as given in Descriptive Report on Third-Order Triangulation, Project 98 H. & T., many of the Geological Triangulation stations that were spotted on the photographs, but not connected with our triangulation scheme directly can be used for control of the photographs. They should, however, be used with caution due to the lack of a complete tie with the recent work.

#### LIST OF RECOVERABLE OBJECTS

Objects which may be useful for hydrographic control have been indicated on the photographs in many cases. Separate list is not submitted. As it was not expected when the field inspection was made that the hydrography would be accomplished for some little time, no attempt was made to fully cover the spotting of objects that would be useful if hydrography were immediately projected. It is requested that any objects, such as trees, poles, and so forth, which can be readily seen under the stereoscope and that are on the top or outer banks of the levees, be located for use in the hydrographic work.

The above report submitted by Lieut. L.P. Raynor, Chief of Party, in 1933.

#### PHOTOGRAPHS

The photographs were made by Camera No. 28-30-1, Type T-3A. Lens E.F. 6.0" R.A. 6.8 No other information as to photographic work is available in the field.

Many pictures failed to overlap as much as fifty percent. The number of such failures varied from 13 $\frac{1}{2}$ % in some flights to 29% in others. Great difficulty in compiling these photographs would have been experienced had it not been possible to insert additional three point fixes where needed.

As a general thing, the photographs were printed much too dark, making compilation and identification of points and other features more difficult than would have been the case with lighter prints.

Some difficulty was encountered due to skewing of the camera. This was particularly objectionable in the case of two adjacent flights in which the camera was skewed in the same direction. It is believed that unless skewing in opposite directions for adjacent flights is always accomplished, it will be found more satisfactory if the camera is kept square with the line of flight.

Due to the very level character of the land in this project, there was little trouble due to distortion caused by differences in elevation. On the outer ends of the wing prints (A and C) considerable displacement of the levees with respect to the water lines of the rivers and sloughs occurs. Consequently when it was necessary to use this section of these prints, levees and water lines were located independently.

#### COMPARISON WITH OTHER SURVEYS

No previous surveys for navigational use have been made, so comparison with other maps or charts was not possible.

#### LANDMARKS

Two copies of list submitted by Lieut. L.P. Raynor July 28, 1933 are attached hereto, with previously omitted positions given. This list has been extended to include a few marks which do not appear on that previously submitted.

#### RECOVERABLE OBJECTS

Objects which may be of future use, other than those described by the triangulation party or shown on the landmark list, are recorded on form No. 524 and submitted with this report. Owing to the nature of the delta country, objects which may be classed as recoverable at a future time are very unusual.

#### NAMES

The names appearing on these sheets were secured from the U.S.G.S. maps of the area, records in the office of the County Surveyor of San Joaquin County, interviews with inhabitants and operators of river craft, and from the records of the Division of Highways, State of California. The names of large tracts of land have been checked with the records in the office of the County Assessor of San Joaquin County, and road names checked with the records in the office of the Board of Supervisors.

In several cases the official recorded names did not check with those in common use by the inhabitants. In some

cases roads were signed and known by a name quite different from that in the official records. In such cases the locally accepted name was used in preparing the sheets.



It was not unusual to find one name in common use by river-men and another by others. In such cases the name in common use by river-men was used when the object was one which was of primary interest to them.

The names are roughly lettered on a name-sheet, which accompanies each map sheet and is numbered to correspond. This sheet is intended as a record of the names and their proper positions on the sheet. It may be used in replacing any names which may become detached in transportation or in storage.

A line was drawn through each name when it was attached to the sheet. When a line has not been drawn through a name on the name sheet, it means that name was not available in Stockton. Such names should be prepared and attached before the sheet is reproduced.

#### SPECIAL SYMBOLS

Doubt exists as to the proper indication of unrecoverable theodolite three point fixes used for photo-control only. On these sheets they have been shown by a small, black circle and lettered: "Three point fix No. --" using the appropriate photograph number. Recoverable objects are shown with the same symbol, but with such lettering as: "Tank", "Stack", "Tower", etc. as appropriate.

An attempt has been made to locate rather completely the many syphons, pumps, and flood-gates which occur in this region. The pumps have been shown as a small building and the word "pump." The syphons and flood-gates have been shown by the following special symbols:  Syphon,  Flood-gate.

#### SECTION LINES

The section lines and grant lines which have been established in this area have not been shown. They are important to a proper interpretation of maps in those areas where they occur, but as they are foreign to navigational use, they have been omitted from these sheets.

#### CONTROL

Specific reference to the control used on each sheet appears in the various descriptive reports. These lists include only those stations which occur within the neat lines of the sheet, but by utilizing the marginal space and "dog-ears" the number of points actually used in compiling a single sheet was considerably extended in many cases.

The three point fixes by T.P.Pendleton were intended to strengthen the compilation where it was weak due to insufficient overlap of the photographs, or other reasons. Lists of Directions and Computations for these points are submitted in a folder marked "Supplemental Photo Control." Owing to the unrecoverable nature of these points, it is recommended that they be retained with other photo compilation records. All positions are based on field calculations of J.Bowie's first order triangulation.

THE FOLLOWING APPLIES TO SHEET T-5027 ONLY

#### STATISTICS

Area of sheet, 31.1 square miles.

Length of rivers and sloughs, 18.1 miles.

West of Indian Slough the land rises gradually from the river. East of Indian Slough the land is low, varying in elevation from a few feet above to a few feet below mean sea level.

That part of the sheet which lies west of Old River is in Contra Costa County, that portion of the sheet east of Old River lies in San Joaquin County. The boundary line between the two counties follows the middle of the channel of Old River, but the symbol has been omitted in order to keep the waterway clear.

The Borden Highway is part of the state highway system. It is surfaced with oil-macadam for the entire length shown on this sheet.

#### BRIDGES AND OTHER STREAM CROSSINGS

There is one bridge on this sheet, a steel highway bridge where the Borden Highway crosses Old River.

This bridge has an electrically operated swing span, with a fixed steel span at each end. The clear width of roadway is 19' - 8".

The clear height above "High Water" is 17.8 feet



The width of the west channel is 100 feet; of the east channel 98 feet. Elevation High Water 15.6 U.S.G.S. Datum. (The above from War Department permit for alterations to bridge, issued 1931.)

#### OVERHEAD TRANSMISSION LINE CROSSINGS

ACROSS	LOCATION	POLES	CLEARANCE ABOVE HW
Middle River	0.25 miles south Middle River Station	Steel	125 feet
Old River	0.6 miles south Woodward	Steel	125 feet
Indian Slough	1.06 miles west Old River	Wood	125 feet
Indian Slough	0.75 miles south A.T.7 S.F.Ry.	Wood	To be secured by hydrographic party.

#### SUBMARINE CABLE CROSSINGS.

All under water cable crossings noted by the field inspection party or by the photo compilation party are shown on the sheet.

#### CONTROL

Vic and Old were triangulated by J. Bowie in 1931; all other stations by L.P.Raynor in 1932 and 1933 except those marked "T.P.P." in the table below, which were by T.P.Pendleton in 1933. These latter stations are all theodolite three point fixes, are all not marked and are not recoverable, and are shown on the sheet by small circles.

*Triangulation used on this sheet was from the field  
computations on N.A. 1927 Datum*

The locations shown in the following table are the values used in the compilation of this sheet. U.S.G.S. points are marked, and have been adjusted to approximate 1927 N.A.Datum.

DESCRIPTION	LATITUDE	LONGITUDE	
△ VIC, U.S.E., 1931	37 - 54 - 47.03	121 - 31 - 46.46	
△ OLD, 1931	37 - 53 - 25.687	121 - 34 - 04.640	
○* Mansion House, U.S.G.S.	37 - 54 - 38.64	121 - 33 - 35.75	
△ Middle River, East of Three Steel Poles, 1932	37 - 56 - 12.92	121 - 31 - 40.65	
△ Middle River, Middle of Three Steel Poles, 1932	37 - 56 - 10.32	121 - 31 - 45.43	
△ Middle River, West of Three Steel Poles, 1932	37 - 56 - 05.91	121 - 31 - 53.52	
△ Orwood Tract, West Side, East of Two Wood Poles, 1932	37 - 55 - 45.37	121 - 36 - 23.92	
△ Orwood Tract, West Side, West of Two Wood Poles, 1932	37 - 55 - 45.04	121 - 36 - 28.07	
△ Woodward Island, East of Two Steel Poles, 1932	37 - 55 - 43.79	121 - 33 - 21.07	
△ Orwood Tract, East Side, West of Two Steel Poles, 1932	37 - 55 - 43.42	121 - 33 - 33.78	
△ Indian Slough, North of Two Wood Poles, 1932	37 - 55 - 11.05	121 - 35 - 02.15	
△ Indian Slough, South of Two Wood Poles, 1932	37 - 55 - 03.60	121 - 35 - 05.96	
△ Bix, 1932 (918-A)	37 - 56 - 24.34	121 - 37 - 06.00	
○ Semaphore, A.T. & S.F. Ry. 3 PT FIX - Plotted on T5015 - <del>4</del> described on Form 524	37 - 56 - 24.26	121 - 36 - 0 <sup>6</sup> 9.73	
○ Road Crossing, A.T. & S.F. Ry 3 PT FIX - Plotted on T5015 - <del>4</del> described on Form 524	37 - 56 - 24.08	121 - 34 - 13.45	
○ 914 B (T.P.P.)	37 - 55 - 58.26	121 - 38 - 24.06	
1025 B (T.P.P.)	○ - 3 PT FIXES Not recoverable	37 - 52 - 22.18	121 - 34 - 44.08
1033 A (T.P.P.)		37 - 52 - 31.40	121 - 31 - 05.09
929 B (T.P.P.)		37 - 55 - 41.61	121 - 31 - 28.32

\* This station was not connected to by W & C and G. S. triangulation and no data concerning it are on file in this office except the position as given here.

B.G. Jones

NOTE: The differences in location of detail at the junction with Sheet 5015 at the north edge of this sheet have been investigated in the office. The photo. plot has been checked across this junction using additional control available since the original plot of 5015 and the differences corrected. A more detailed report of this replot will be given in the report for Sheet 5015A.

*B.G. Jones*

## PHOTOGRAPHS

The following photographs fall on this sheet:

North Flight: Nos. 914 to 929, inc.

Middle Flight: Nos. 995 to 1012, inc.

These photographs were taken December 19, 1931,  
between the hours of 11:45 a.m. and 12:45 p.m.

## COMPILATION

Compilation was by the radial line method. The work  
was completed in pencil before being inked.

## JUNCTION WITH SHEET T-5015

The common edge of these sheets joined very well  
except in the vicinity of Moorland Postoffice. This section  
has been redrawn as an overedge correction on sheet T-5027.

The only other important differences are in the  
north-south road at Bixler and the parallel road one mile  
farther west. The road at Bixler is 961.5 feet west of  
Instrument Set-up 918 A, as determined by traverse of Lieut.  
Raynor. The position of road west of Bixler is fixed by  
theodolite three point, location 914 B. In both cases agreement  
in position of the roads was secured one mile farther north.

*See opposite page.*

## RECOMMENDATIONS

This sheet is believed to have a probable error of  
less than five meters in all places.

T-5027

## Chart No..

Diagram No. \_\_\_\_\_

**HMS**

**HMS** Names underlined in red approved Nov. 23, 1934

H Bacon

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>Upper Jones Tract</u>	Local usage and reliable maps			
	<u>Woodward Island</u>	"			
	<u>Victoria Island</u>	"			
	<u>Oxwood Tract</u>	"			
	<u>Byron Tract</u>	"			
	<u>Byron-Bethany Irrigation District</u>	Official name			
	Camp numbers check against reliable maps of the area				
	<u>Old River</u>	"			
	<u>Middle River</u>	"			
	<u>North Victoria canal</u>	"			
	<u>Indian Slough</u>	"			
	<u>Victoria Canal</u>	"			
	<u>North Canal</u>	Field report			
	<u>Woodward Canal</u>	"			
	<u>East Contra Costa Irrigation District Canal</u>	Field Report			
	<u>San Joaquin County</u>	OK			
	<u>Contra Costa County</u>	OK			
	<u>Union Island</u>	OK/HB.			

MEMORANDUM

Nov. 27, 1934

To: K. T. Adams, Chief, Field Records Section  
From: Helen M. Strong  
Subject: Spelling on survey sheets for San Joaquin Delta.

The following authorities are being used to verify spelling on above:

Maps from Coast and Geodetic Survey Library:

U. S. G. S. Quadrangles  
Topographical and Irrigation Map of the San Joaquin Valley  
California State Engineering Department, 1886  
Topographical Map of Central California together with a part  
of Nevada, State Geological Survey of California, 1873  
Topographical and Irrigation Map of the Great Central Valley  
of California, State Engineering Department, 1887.  
Delta of the Sacramento and San Joaquin Rivers, California,  
Weathers, 1928, Corrected to Oct. 1, 1931, C. & G. S. blue-  
print # 25708.

from Library of Congress:

San Joaquin Delta, 1914, Henderson & Bidwiller  
San Joaquin Valley, 1917, U.S. Engineering Dept., 11 sheets &  
index.  
Sacramento Valley, 1933, Standard Oil Company of California  
Central Sacramento Valley, 1922, E.A. Abell  
Sacramento Valley, 1914, Punnett Bros.  
Sacramento and San Joaquin Valleys, 1921, Weathers  
Sacramento and San Joaquin Rivers Delta, 1928, Weathers  
Sacramento and San Joaquin Rivers, 1921, Punnett & Perez  
Sacramento and San Joaquin Rivers, 1898, Punnett Bros.  
South San Joaquin Irrigation District (West Half), 1921,  
Jeffries  
Delta Farms, 1913, Brown & Co.  
Irrigation Map of Central California, 1922, Dept. of Agri-  
culture, Bur. of Pub. Roads, Irrigation Investigations  
Contra Costa County, 1914, Arnold and Glass  
Alameda County, 1915, Fraters  
San Joaquin County, 1931, Calif. State A.A.A.  
San Joaquin County, 1922, A.M. Barton, C.E.  
San Joaquin County, 1916, Budd & Widdows  
San Joaquin County, 1895, Compton  
Complete Map of California, 1" to 1 mile, Rand McNally & Co.

Bulletins

San Joaquin River to Herndon, 1917, U.S. Engineers, H.D. No. 332,  
65th Cong., 1st Sess. ( maps )  
California Public Works Bull. 25, State Water Plan, 1930.  
Sacramento-San Joaquin Flood Control, 1916-1930  
(A collection of House and other documents, Washington)  
California State Wide Plan, 1930-1932  
California Pub. Wks. Bull. No. 29, San Joaquin River Basin, 1931.  
California Pub. Wks. Bull. No. 26, Sacramento River Basin, 1931.  
California Pub. Wks. Bull. No. 27, Variation and Control of  
Salinity in the Sacramento-San Joaquin Delta and Upper  
San Francisco Bay, 1931.

(See next page.)

Helen M. Strong.

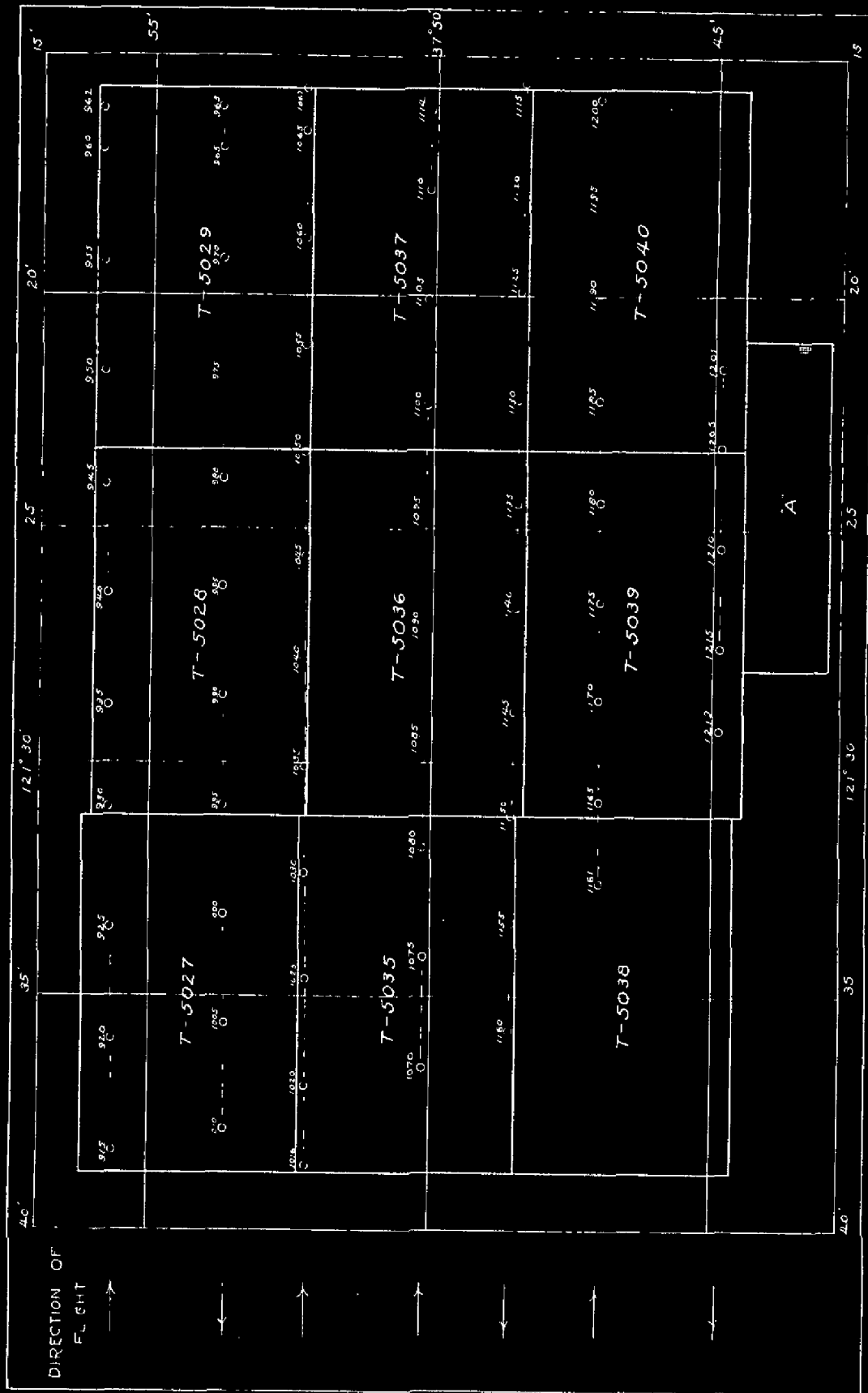
References also consulted for names on sheets for San Joaquin-Sacramento Delta. These are in the files of the Coast and Geodetic Survey.

Blueprints nos. 25702, 25703, 25704, 25705, 25706, 25707 which are U.S.G.S. quadrangles on which new names have been inked by the field party: quads for Collinsville, Jersey, Bouldin, Headreach, Holt, Stockton.

Blueprint no. 25708, the Weathers Map of the San Joaquin-Sacramento Delta, ed. of 1928, rev. 1931.

C. & G.S. Letter 698-1932 re same.

*Helen M. Strong.*  
Helen M. Strong.



# INDEX OF PHOTOGRAPHS

Scale 1:190,000



## REVIEW OF PHOTO TOPOGRAPHIC SURVEY NO. T-5027

Title (Par. 56)

Chief of Party L.P. Raynor

Compiled by

Project 153 H. &amp; T.

Instructions dated

1. The survey and preparation for it conform to the requirements of the Topographic Manual. (Par. 8; and 16, a, b, c, d, e, g and i.)

Yes

2. The character and scope of the compilation satisfy the instructions and the "Notes on the Compilation of Planimetric Line Maps from Five Lens Aerial Photographs".

Yes

3. The control and adjustment of the radial plot were adequate. (Par. 12, 29.)

Yes

4. There is sufficient control on maps from other sources that were transmitted by the field party for their application to the charts. (Par. 28.) Maps from other sources were not used.

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

6. 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.) Those features other than low water line do not occur on this sheet. A general statement regarding water lines appears in Descriptive Report Sheet T-5027

7. Important details shown on previous surveys and on the chart have been compared with this sheet and a statement has been entered in the report regarding the removal from the chart or change in position of important detail such as rocks, lights, beacons, prominent objects, bridges, docks, and structures along the water front. No previous surveys for navigational use have been made.

8. The span, draw and clearance of bridges are shown. (Par. 16c.) These details appear in descriptive reports.

9. The data furnished by the Field Inspection is adequate.

Yes

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.

- ✓10. The descriptive report covers all details listed in the Manual, so far as they apply to this survey. (Par. 64, 65 and 66.)

Yes

- ✓11. The descriptive report also contains all additional information required in photo topography as prescribed in the instructions and in the "Notes on the Compilation of Planimetric Line Maps from Five Lens Aerial Photographs".

Yes

- ✓12. The descriptions of recoverable ~~points~~ <sup>points</sup> ~~shown on the map~~ <sup>points</sup> were accomplished on Form 524, and scaling of positions checked. (Par. 29, 30 and 57.)

Yes

- ✓13. A list of landmarks for charts was furnished on Form 567 and scaling of positions checked. (Par. 16d, e, 60.) Yes. This a duplicate of list supplied by L.P. Raynor with omitted positions scaled and a few additional marks.

- ✓14. The geographic datum of the sheet is N.A. 1927 and the reference station is correctly noted. (Par. 34.)

Yes

- ✓15. Junctions with contemporary surveys are adequate.

Yes

- ✓16. Geographic names are shown on the sheet and are covered by the Descriptive Report. (Par. 64, 66k.) *See the general report for this project covering pages 10, 13, and 14 of this report.*

Yes

- ✓17. The quality of the drafting is good. (Par. 31, 32, 33, 35, 36, 37, 38, 39, 40, 41, 42, 45, 46.) Yes, except that black

celluloid ink was used throughout. - *drafting very good*

18. No additional surveying is recommended.

19. Remarks:

20. Examined and approved:

*L.P. Raynor*  
Chief of Party

*T.P. Peniston*  
Chief Photo Compiler

21. Remarks after review in office:

Reviewed in office by: *B.G. Jones*

Examined and approved:

*K.T. Adams*  
Chief, Section of Field Records

*L.O. Solant*  
Chief, Division of Charts

*J.P. Gordon*  
Chief, Section of Field Work

*G. H. de*  
Chief, Division of  
Hydrography and Topography.



DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

MAR 5 1934

## LANDMARKS FOR CHARTS

Acc. No. \_\_\_\_\_

Stockton, CaliforniaFebruary 26, 1934, 19

DIRECTOR, U. S. COAST AND GEODETIC SURVEY:

The following determined objects are prominent, can be readily distinguished from seaward from the description given below, and should be charted. **Positions on this list which also appear on list submitted July 28, 1933 have been assigned the same distinguishing numbers.**

*L. P. Raymond*

Chief of Party.

DESCRIPTION	POSITION					METHOD OF DETER- MINATION	CHARTS AFFECTED <i>South of chart 5527 (new)</i>
	Latitude.		Longitude		Datum		
	°	'	D. M. meters	°			
1. Tall Steel Trans. Tower	37-47	1616	121-25	245	N.A. 1927	Triang	<del>San Joaquin</del> <i>New</i>
2. do	37-47	1639	121-25	255	do	do	do
3a do	37-47	1844	121-25	77	do	Air Photos	do
3b do	37-47	1831	121-25	61	do	do	do
3c do	37-48	348	121-24	1236	do	do	do
3d do	37-48	333	121-24	1220	do	do	do
3e do	37-48	569	121-24	1044	do	do	do
3f do	37-48	555	121-24	1028	do	do	do
3g do	37-48	936	121-24	695	do	do	do
3h do	37-48	949	121-24	711	do	do	do
4. Tall Steel Trans. Tower	37-49	421	121-32	1190	do	Triang	do ✓
5a do	37-49	354	121-32	1386	do	Air Photos	do ✓
5b do	37-49	295	121-33	99	do	do	do ✓
5c do	37-49	234	121-33	278	do	do	do ✓
6. do	37-49	1307	121-23	210	do	Triang	do ✓
7. do	37-49	1444	121-23	91	do	do	do ✓
8a. do	37-49	1323	121-23	222	do	Air Photos	do ✓

A list of objects which are of sufficient prominence for use on the charts, together with a description of the same, must be furnished in a special report on this form, and a copy of such report must be attached by the Chief of Party to his descriptive report. The selection, determination, and description of these points are of primary importance.

The description of each object should be short, but such as will identify it; for example, standpipe, water tower, church spire, tank, tall stack, red chimney, radio mast, etc. Generally, flagstaves and like objects are not sufficiently permanent to chart.



DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

## LANDMARKS FOR CHARTS

\_\_\_\_\_, 193  
DIRECTOR, U. S. COAST AND GEODETIC SURVEY:

The following determined objects are prominent, can be readily distinguished from seaward from the description given below, and should be charted.

Chief of Party.								
DESCRIPTION	POSITION					METHOD OF DETER- MINATION	CHARTS AFFECTED <i>South of Chart 5527 (new)</i>	
	LATITUDE		LONGITUDE		DATUM			
	°	'	D. M. METERS	°				'
8b Tall Steel Trans. Tower	37-49	1338	✓	121-23	228	1927 N.A.	Air Photo	<del>New</del> San Joaquin
8c do	37-49	1458	✓	121-23	105	do	do	do ✓
8d do	37-49	1468	✓	121-23	117	do	do	do ✓
9 Tall Steel Trans. Tower	37-52	1357	✓	121-19	1212	do	Triang	do ✓
10 do	37-52	1372	✓	121-19	1229	do	do	do ✓
11 do	37-52	1382	✓	121-19	1240	do	do	do ✓
12a One of Trio of Tall Trans. Towers	37-52	1187	✓	121-19	1362	do	Air Photos	do ✓
12b do	37-52	1200	✓	121-19	1376	do	do	do ✓
12c do	37-52	1209	✓	121-19	1388	do	do	do ✓
13 Watertank, Stockyards	37-54	285	✓	121-16	419	do	Triang	do *
14 Tall Steel Trans. Tower	37-55	78	✓	121-18	341	do	do	do ✓
15 Tall Steel Trans. Tower	37-55	85	✓	121-18	355	do	do	do ✓
16a do	37-54	1678	✓	121-18	479	do	Air Photos	do ✓
16b do	37-54	1685	✓	121-18	492	do	do	do ✓
17 Tall Wood Power Pole, Middle Riv	37-54	781	✓	121-30	544	do	Triang	do ✓

A list of objects carefully selected because of their value as landmarks as determined from seaward together with individual descriptions, must be furnished in a special report on this form, and a copy of such report must be attached by the Chief of Party to his descriptive report.

The selection, determination, and description of these points are an important factor in the value of the chart. Landmarks selected at appropriate intervals can be clearly charted. However, when none is outstanding, a group of two or three objects may by their interrelationship provide positive identification. A group so selected should be indicated.

The description of each object should be short, but such as will clearly identify it; for example, a standpipe, elevated tank, gas tank, church spire, tall stack, red chimney, radio mast, etc. Assign numerals to landmarks to indicate: (1) off-shore, (2) inshore, (3) harbor, 1, 2, 3 would be a mark useful on all charts. Generally, flagstaves and like objects are not sufficiently permanent to chart.



DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

## LANDMARKS FOR CHARTS

DIRECTOR, U. S. COAST AND GEODETIC SURVEY:

The following determined objects are prominent, can be readily distinguished from seaward from the description given below, and should be charted.

Chief of Party.

DESCRIPTION	POSITION					METHOD OF DETERMINATION	CHARTS AFFECTED <i>South of Chart 5527 (new)</i>
	LATITUDE		LONGITUDE		DATUM		
	°	D. M. METERS	°	D. P. METERS			
18 Tall Wood Power Pole, Middle Riv.	37-54	699	121-30	697	1927 N.A.	Triang	<del>New San Joaquin</del> ✓
19 do	37-54	830	121-30	453	do	do	do ✓
28 Lattd. Steel Powr. Pole, Old River	37-50	1024	121-32	256	do	do	do ✓
29 do	37-50	1147	121-32	376	do	do	do ✓
30 Water Tank, French Camp	37-53	236	121-17	147	do	do	do *
31 Water Tank Tracy	37-44	430	121-26	51	do	do	do
32 Water Tank, Tracy	37-44	560	121-25	240	do	do	do
33a North Wood Pole Middle River	37-53	903	121-26	542	do	do	do ✓
33b South Wood Pole Middle River	37-53	773	121-26	550	do	Air Photos	do ✓
34a Wood Pole near Mossdale Bridge	37-47	345	121-18	450	do	Transit Traverse	do
34b Wood Pole near Mossdale Bridge	37-47	226	121-18	581	do	Air Photos	do
35a Steel. Trans. Twr. S.J. Riv. Nr. W.P.	37-46	1594	121-17	1441	do	Triang USGS	do
35b Steel Trans. Twr. S.J. Riv. Nr. W.P.	37-46	1475	121-18	136	do	Air Photos	do
35c do	37-46	1719	121-18	41	do	do	do
35d do	37-46	1658	121-18	196	do	do	do

A list of objects carefully selected because of their value as landmarks as determined from seaward together with individual descriptions, must be furnished in a special report on this form, and a copy of such report must be attached by the Chief of Party to his descriptive report.

The selection, determination, and description of these points are an important factor in the value of the chart. Landmarks selected at appropriate intervals can be clearly charted. However, when none is outstanding, a group of two or three objects may by their interrelationship provide positive identification. A group so selected should be indicated.

The description of each object should be short, but such as will clearly identify it; for example, a standpipe, elevated tank, gas tank, church spire, tall stack, red chimney, radio mast, etc. Assign numerals to landmarks to indicate: (1) off-shore, (2) inshore, (3) harbor, 1, 2, 3 would be a mark useful on all charts. Generally, flagstaves and like objects are not sufficiently permanent to chart.



DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

## LANDMARKS FOR CHARTS

, 193

DIRECTOR, U. S. COAST AND GEODETIC SURVEY:

The following determined objects are prominent, can be readily distinguished from seaward from the description given below, and should be charted.

Chief of Party.

DESCRIPTION	POSITION					METHOD OF DETERMINATION	CHARTS AFFECTED
	LATITUDE		LONGITUDE		DATUM		
	°	'	D. M. METERS	°			
36a Wood Power Pole Middle River	37-49	1776	✓	121-23	30	1927 Air N.A. Photos	South of chart 5527 New (new) San Joaquin ✓
36b do	37-49	1735	✓	121-23	92	do do	do ✓
37a Wood Power Pole Grant Line Canal	37-49b	453	✓	121-25	1216	do Triang Air	do ✓
37b do	37-49			121-25		do Photos	do ✓
38a Wood Power Pole near Garwood Br.	37-55	1103	✓	121-19	612	do do	do ✓
38b do	37-55	1079	✓	121-19	734	do do	do ✓
38c do	37-55	1123	✓	121-19	609	do do	do ✓
38d do	37-55	1123	✓	121-19	782	do do	do ✓
39 Brick Stack S.J. River.	37-53	1459	✓	121-19	966	do do	do *
40 Stack, Holly Sugar Refinery	37-46	635	✓	121-25	336	do Triang	do
41 Cupola, Mansion House	37-54	1191	✓	121-33	873	do Triang USGS	do *
42 Latticed Steel Power Pole ✓	37-56	398	✓	121-31	993	do Triang	do 5527 *
43 do ✓	37-56	318	✓	121-31	1109	do do	do 5527 *
44 do	37-56	182	✓	121-31	1307	do do	South of chart 5527 (new) do *
45 Tall Wood Power Pole	37-55	1399	✓	121-36	584	do do	do ✓

A list of objects carefully selected because of their value as landmarks as determined from seaward together with individual descriptions, must be furnished in a special report on this form, and a copy of such report must be attached by the Chief of Party to his descriptive report.

The selection, determination, and description of these points are an important factor in the value of the chart. Landmarks selected at appropriate intervals can be clearly charted. However, when none is outstanding, a group of two or three objects may by their interrelationship provide positive identification. A group so selected should be indicated.

The description of each object should be short, but such as will clearly identify it; for example, a standpipe, elevated tank, gas tank, church spire, tall stack, red chimney, radio mast, etc. Assign numerals to landmarks to indicate: (1) off-shore, (2) inshore, (3) harbor, 1, 2, 3 would be a mark useful on all charts. Generally, flagstaves and like objects are not sufficiently permanent to chart.

App'd to Chart 126-52  
Page B 3-16-61



DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

# LANDMARKS FOR CHARTS

19

DIRECTOR, U. S. COAST AND GEODETIC SURVEY:

The following determined objects are prominent, can be readily distinguished from seaward from the description given below, and should be charted.

Chief of Party.

DESCRIPTION	POSITION					METHOD OF DETER- MINATION	CHARTS AFFECTED <i>South of chart 5527 (new)</i>
	Latitude		Longitude		Datum		
	°	D. M. meters	°	D. P. Meters			
<del>68</del> Tall Wood Power Pole	37-55	1389	121-36	686	1927 N.A.	Triang	<del>New</del> San Joaquin ✓
67 Latticed Steel Power Pole	37-55	1350	121-33	514	do	do	do *
68 do	37-55	1339	121-33	825	do	do	do *
69 Tall Wood Power Pole	37-55	341	121-35	52	do	do	do *
69 do	37-55	111	121-35	146	do	do	do *
61 Stack at Brickyard Steekton	37-55	144	121-16	819	do	do	do *
Belfry Kingston School	37-54	529	121-25	655	do	Triang USGS	do *
Wood Power Pole Sugar Cut	37-47	526	121-25	138	do	Air Photos	do
do	37-47	828	121-25	311	do	do	do
Wood Power Pole Old River	37-48	68	121-25	1084	do	do	do
do	37-48	146	121-25	1140	do	do	do
Wood Power Pole Tom Paine Slough	37-47	1380	121-25	703	do	do	do
do	37-47	1456	121-25	757	do	do	do
				</			

A list of objects which are of sufficient prominence for use on the charts, together with a description of the same, must be furnished in a special report on this form, and a copy of such report must be attached by the Chief of Party to his descriptive report. The selection, determination, and description of these points are of primary importance.

The description of each object should be short, but such as will identify it; for example, standpipe, water tower, church spire, tank, tall stack, red chimney, radio mast, etc. Generally, flagstaffs and like objects are not sufficiently permanent to chart.