

Chapter B

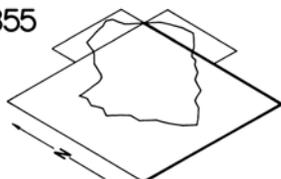
Completions of Koehn Dry Lake Bed

T. 30 S., R. 38 E., M. D. M.

B4

History of Surveys

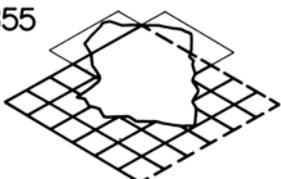
1855



1855 H.S. Washburn surveyed the south and east boundaries.

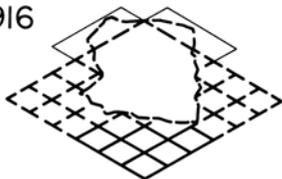
1855 James G. McDonald surveyed the north and west boundaries, the subdivisional lines and the meanders of Koehn Dry Lake. His Special Instructions directed him to meander the lake and omit the lake bed from the rectangular survey even though the lake bed was dry at the time. The original plats are shown in figures 1, 2 and 3.

1855



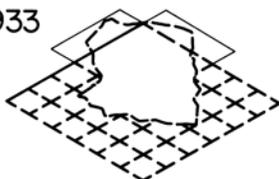
1904 M.W. Buffington, Kern County Surveyor, reestablished or perpetuated many of the original corners in the western portion of the township. Figure 4 illustrates Buffington's recorded map.

1916



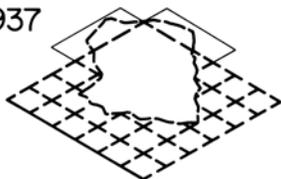
1916 A.M. Strong, licensed surveyor, made a private resurvey of portions of section 19 and sections 29 to 33. Most of Strong's work was based on Buffington's map.

1933



1933 J.E. Little, C.E. No. 3897, resurveyed the north boundary and restored the corner of townships 29 and 30 south, ranges 38 and 39 east by double measurement methods. Little's township corner was controlled by recovered original corners, 2 miles north, 1 mile east, 3 miles south and 4 ½ miles west. Little then restored the corners along the township and range lines by single proportionate measurement.

1937



1937 John Warboys resurveyed the west boundary of the township under Group 299, California.

- 1940 F. Wayne Forrest made an investigative retracement of the east and north boundaries. A portion of Forrest's investigation diagram is shown in figure 5.
- 1948 G. Marvin Litz resurveyed the east boundary of T. 29 S., R. 38 E. Litz accepted the 1933 restoration of the township corner by Little. The Forrest and Litz retracements verified Little's proportionments.
- 1949 Robert F. Myers, L.S. No. 1911, resurveyed section 8. Myers recovered most of the Buffington monuments and restored the meanders of Koehn Dry Lake by holding the record length of the three meander courses. As restored, the Myers work reflects the Buffington work and the original survey very closely.
- 1958 In 1958 the Kern County Surveyor resurveyed the lines between sections 5 and 8, 7 and 8, 17 and 18, 18 and 19, 19 and 20, and 17 and 20, restoring the corner of sections 17, 18, 19 and 20 by double proportionate measurement.
- 1960 In July, 1960, Alan Harrison, L.S. No. 2263 resurveyed portions of the boundaries of sections 27, 28, 33 and 34, and subdivided the north half of section 34 into small tracts.
- 1960 Eugene Fields, C.E. No. 1988, restored the Y. corner of sections 20 and 21 and the meander corner of sections 27 and 28, and other corners not under discussion here.

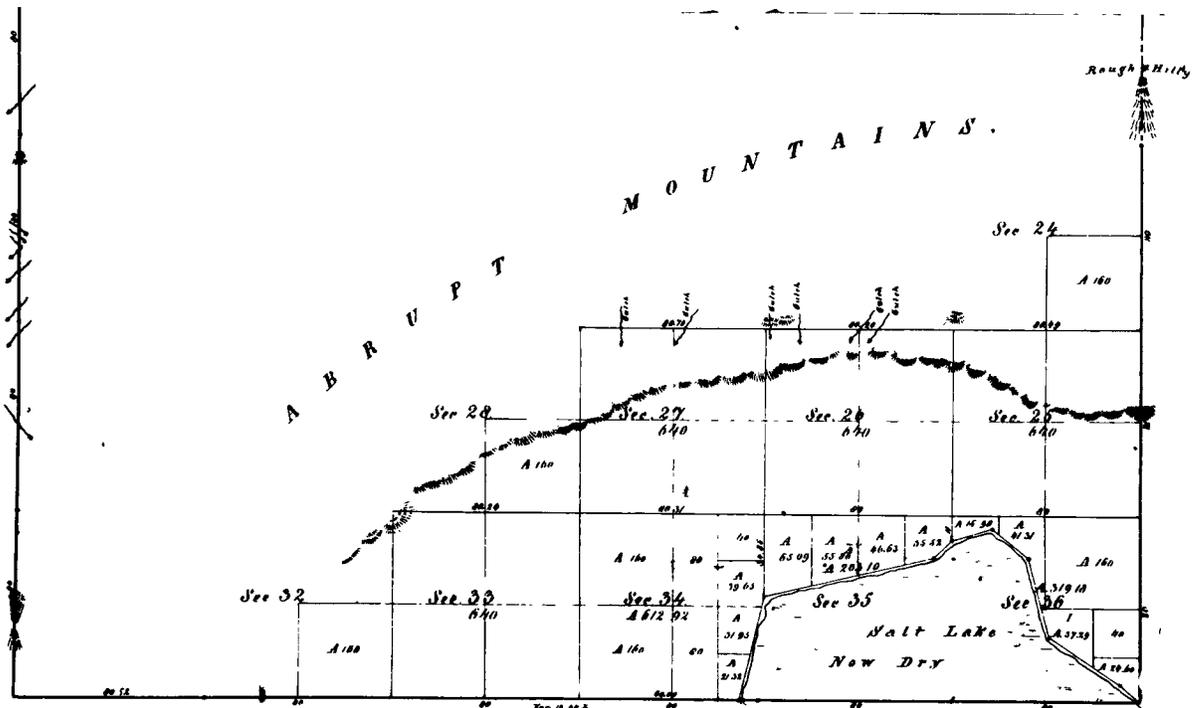
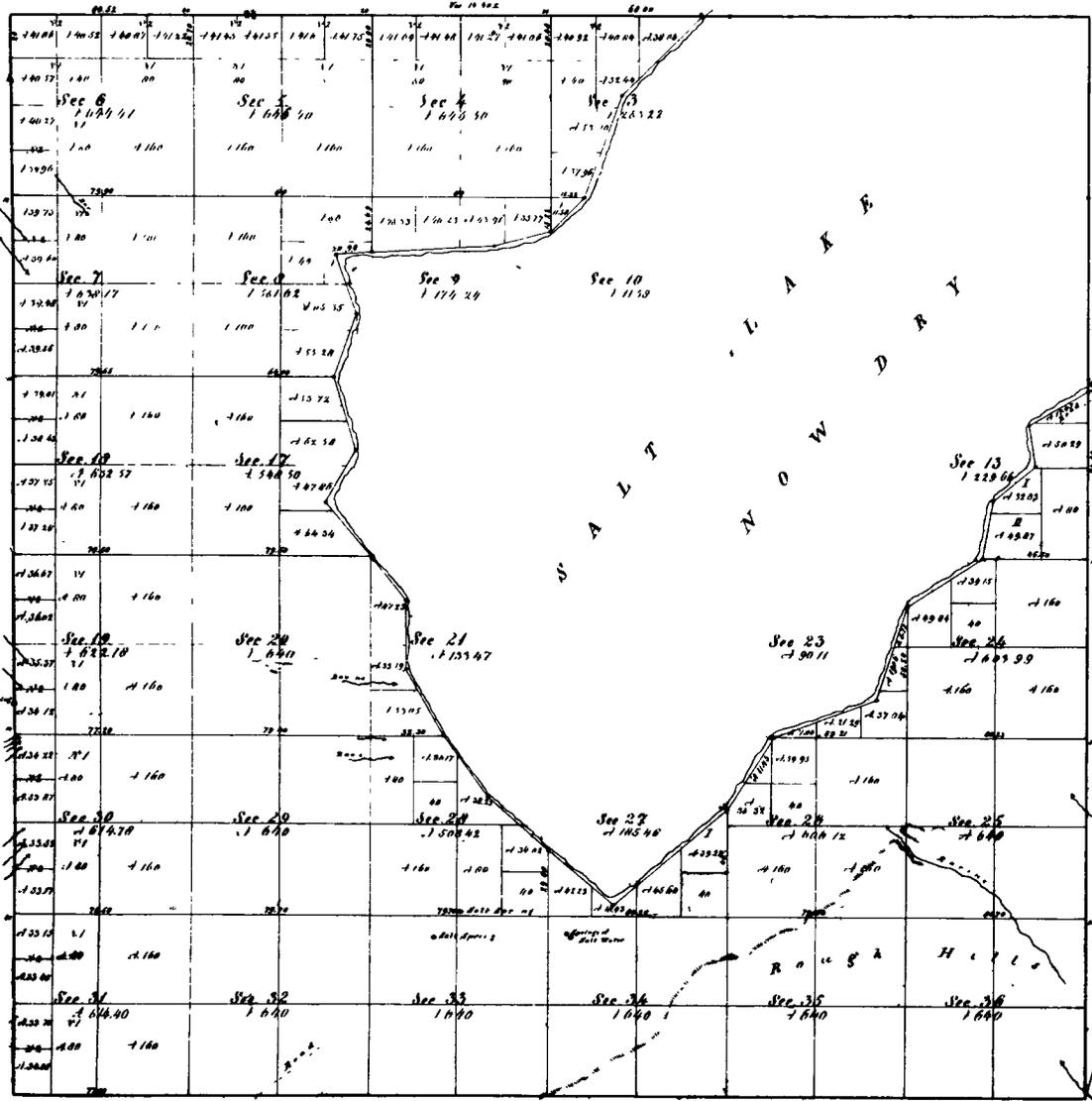


Figure 2 - Original Plat

Township N^o XXX South, Range N^o XXXIII East, of Mount Diablo Meridian,



Township N 30 South Range 33 East Mount Diablo Meridian					
Measures of Salt Lake					
Sec	Course	Dist	Sec	Course	Dist
Beginning at Water post					
21	S 58 E	26 04			
on North Boundary of Township					
	South	31 00			
in Section 3 thence south					
	S 30 E	34 00			
West along Margin of Salt					
20	S 37 E	33 54			
	N 49 E	36 00			
3	S 63 W	49 01	27	S 49 E	30 10
	S 21 W	49 00		N 50 E	67 00
10	S 65 W	21 53	26	N 33 E	30 16
9	S 75 W	23 34	23	N 70 E	48 00
	S 87 W	55 58		N 102 E	44 37
8	S 87 W	15 34	29	N 57 E	40 00
	S 20 E	20 00	13	N 10 E	26 00
	S 20 W	30 00		N 40 E	24 00
17	S 16 E	32 57		N 10 W	10 00
	S 30 W	26 00		N 60 E	30 07
	S 30 E	32 00			

Aggregate Area of Public lands (surveyed) 26,400
 Estimated - Salt Lake (unsurveyed) 6,100
 Aggregate 32,500

Survey	By Whom Surveyed	Date of Contract	Amount of Survey	When Surveyed
Section 13	R. S. Washburn	June 7 th 1854	11 77 10	February 1855
Section 23	James L. McDonald	Special instructions March 17 th 1855	12 00 32	"
Section 24	"	December 10 th 1854	34 68 30	1855
Section 25	"	"	11 17 77	"

The above Map of Township N^o 30 South, Range N^o 33 East (Mount Diablo Meridian) is strictly conformable to the field notes of the Survey stored on file in this Office, which have been examined and approved Surveyor General's Office
 San Francisco California
 January 19th 1854

John W. Hoag
 S. & S. Gen'l Cal.

Figure 1 - Original Plat

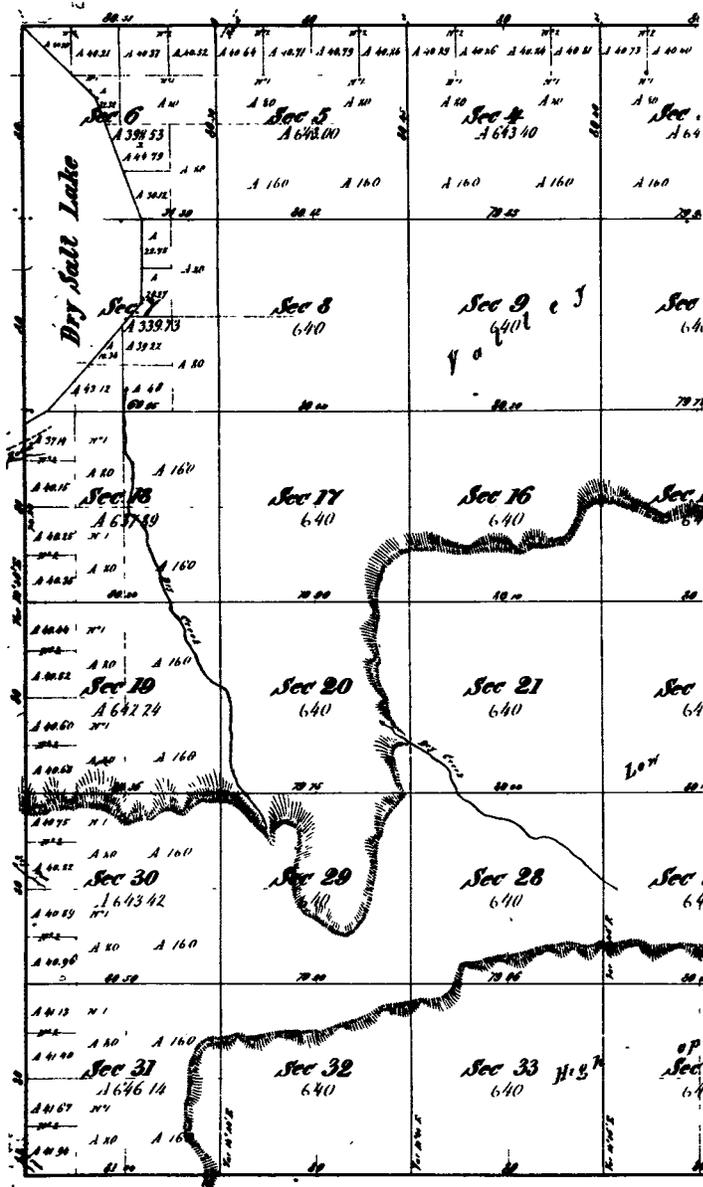


Figure 3 - Original Plat

SURVEY FOR MESSRS. DAVIS, MUNSEY AND OTHERS.

Made by M. W. Buffington
Scale 40 chs to one inch

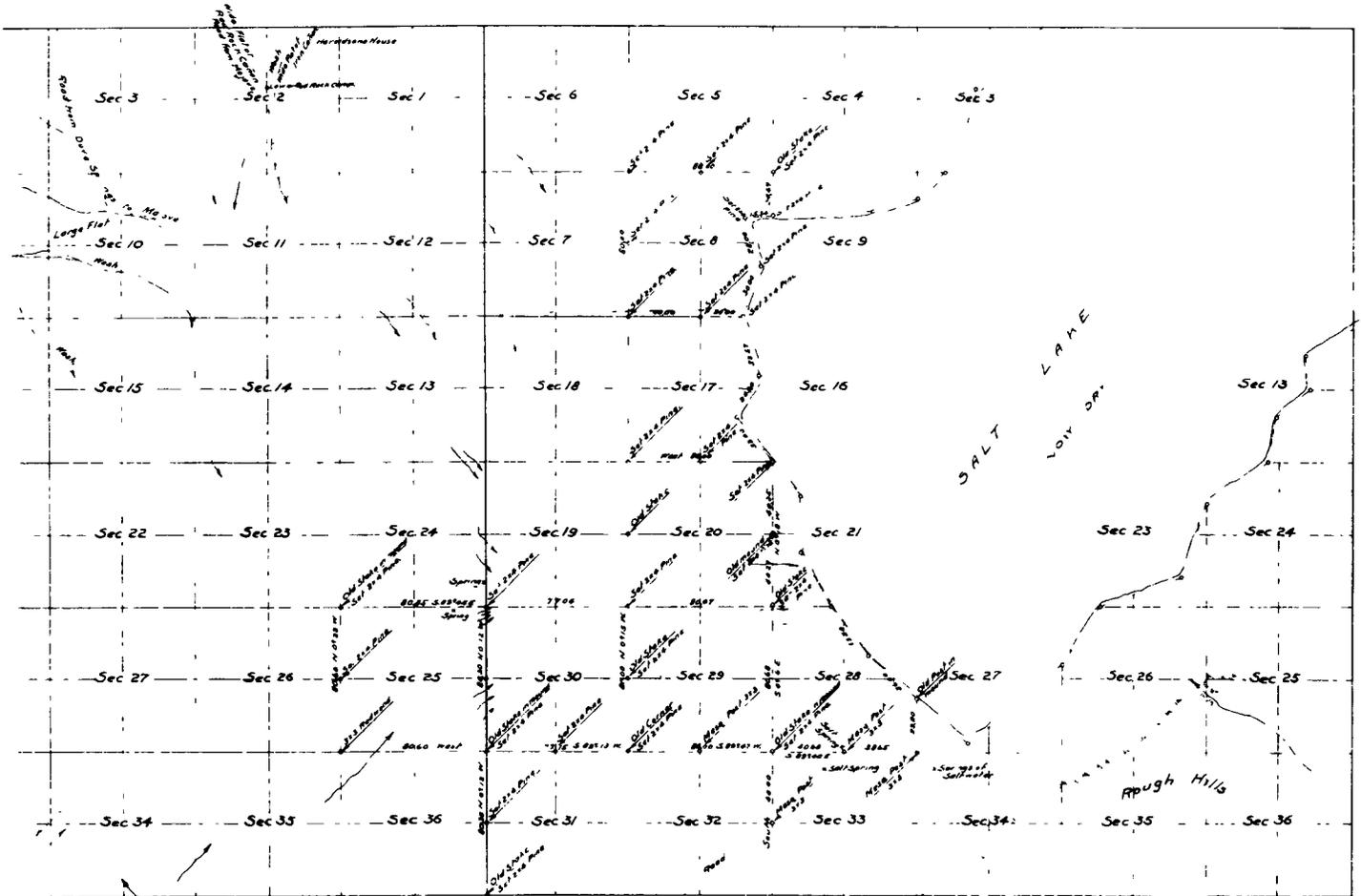


County Surveyor
Oct 10th 9 17th 1904

Filed By M. W. Buffington
October 17, 1904
Chas. A. Lee, Recorder
Fee \$0⁰⁰ pd

Township 30 S Range 37 E MDM

Township 30 S Range 38 E MDM



Note Distances and Corners of this survey in Black
Gov distances shown in Red

Figure 4 - Buffington Map

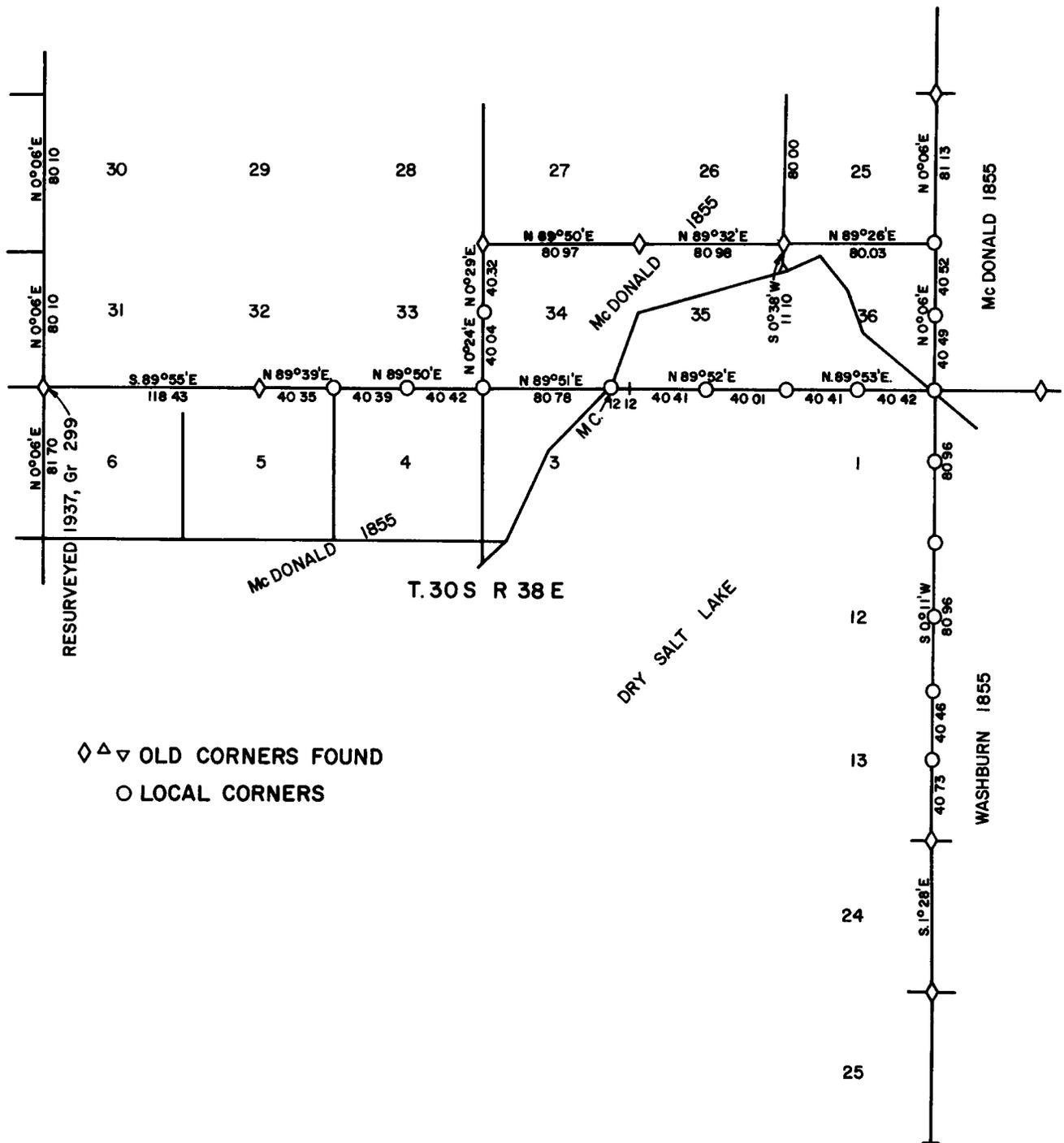
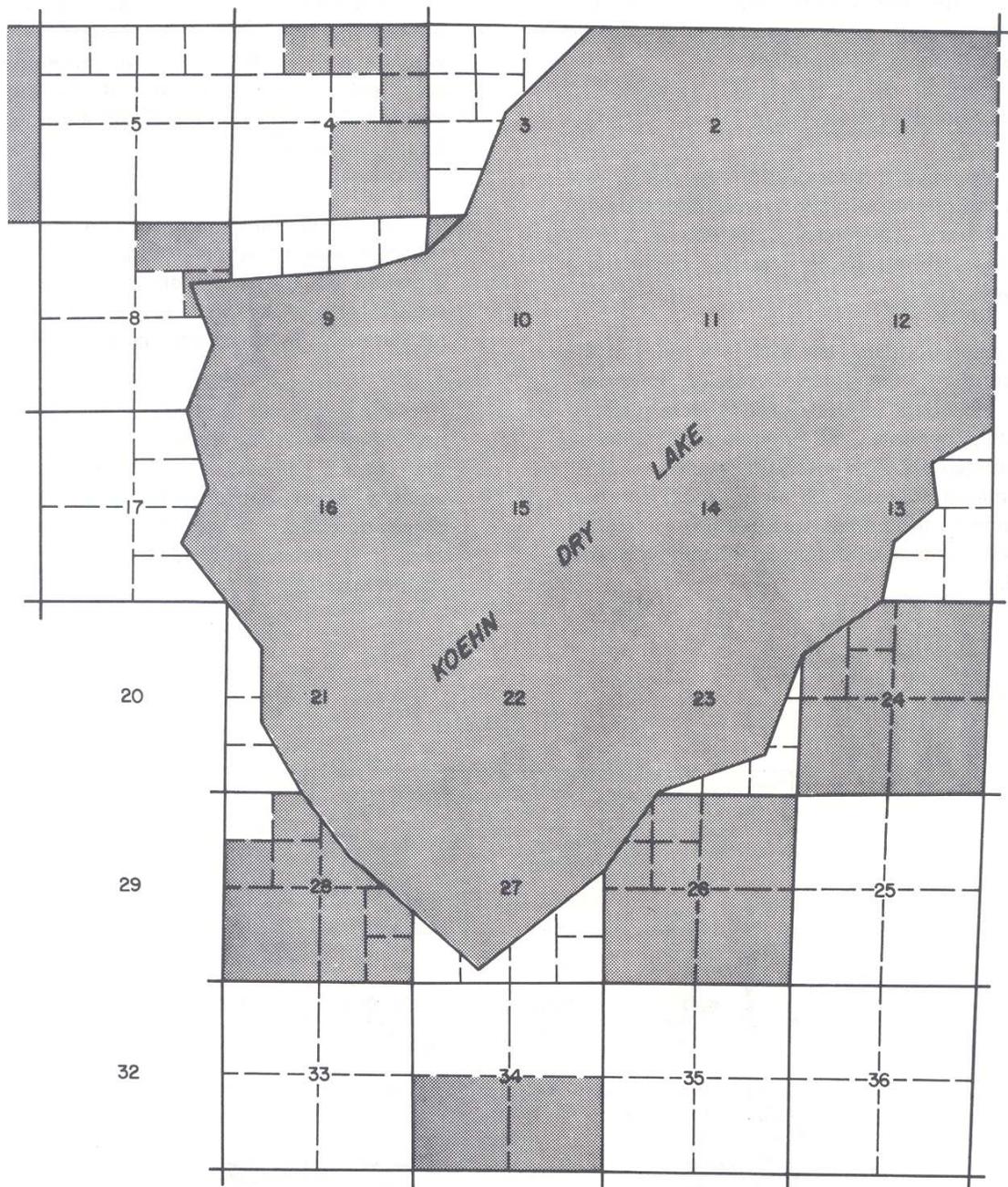


Figure 5 - 1940 Investigation by F. Wayne Forrest

T. 30 S., R.38E., M.D.M., CALIFORNIA
STATUS DIAGRAM



 PUBLIC DOMAIN

Figure 6 - Ownership Status

Reasons for Request of this Survey

Two applications for sodium leases were filed with the Bureau for lands within the unsurveyed Koehn Dry Lake. Deposit was made for the survey of the lands under regulations outlined in 43 C F R 3501.1-2. Request for the necessary resurveys and survey was made by the state supervisor in August 1960.

Special Instructions

On September 9, 1960 Special Instructions were prepared for Group 464, California. They provided for necessary dependent resurveys in townships 29 and 30 south, range 38 east and completion survey of the subdivision lines within the dry bed of Koehn Dry Lake. On November 2, 1966 Supplemental Special Instructions were prepared to include the completion of T. 30 S., R. 39 E., MDM.

The Special Instructions for Group 464 included 3 ½ pages of instructions detailing the completion procedure.

Assignment Instructions

The field work was assigned on September 9, 1960.

The retracements, resurveys and completions of sections 34, 35 and 36 of T. 29 S., R. 38 E., were executed in 1960 and approved April 16, 1962. This discussion is limited to the surveys in T. 30 S., R. 38 E.

During retracement of the line between sections 7 and 8, T. 30 S., R. 38 E., the field party was halted and later arrested on a trespass charge for entering private lands in sections 7 and 8. Although the trespass charges were subsequently dismissed, no action was taken to acquire entry for the purposes of dependently resurveying the west boundaries of sections 8 and 17 and the line between sections 8 and 17. Due to these difficulties, and other factors, the deposit money was returned to the sodium lease applicants.

43 CFR 9185.2 establishes a notification procedure whereby applicants for survey of omitted lands must notify adjacent landowners. In April of 1961 letters of notification were sent to all interested land owners near Koehn Dry Lake as contemplated by regulations outlined in 43 CFR 9185.2-2, even though the lake bed was unsurveyed land and not omitted from survey. The field work was consequently resumed payable from Management of land and Resources funds as a BLM project.

Conditions Found on the Ground

The resurveys and restorations by the private surveyors and county surveyors were recorded with the Kern County Surveyor and the patented lands involved were found to be occupied based upon these surveys.

The east boundary, the east four miles of the south boundary, the interior section lines and necessary meanders of the dry lake were retraced to the extent possible. The original surveys had all been monumented with mesquite wood stakes or similar material with pits and mounds. Obliteration of the original monuments was extensive and very little direct evidence of the original 1855 work was recovered.

Nine corner points were restored by single point control.

Lost section and $\frac{1}{4}$ section corners were restored by single and double proportionate measurement.

The original meanders were restored by the broken boundary method, except in section 8 where the 1949 Myers resurvey monuments were accepted. All angle points of the non-riparian meander line were monumented and marked for a fixed boundary

For the remaining restorations, the field surveyor had to resort to the collateral evidence provided by the many private surveyors cited in the history of surveys as well as proportionate measurement methods and the original record.

Figure 7 is a sketch of the completed dependent resurvey, showing corner recovery and the final courses and distances. The west boundaries of sections 8 and 17 and the line between sections 8 and 17 west of the dry lake were not retraced because of the prohibition against entering.

T. 30 S , R 38 E, M D M, CALIFORNIA
RESULTS OF DEPENDENT RESURVEY

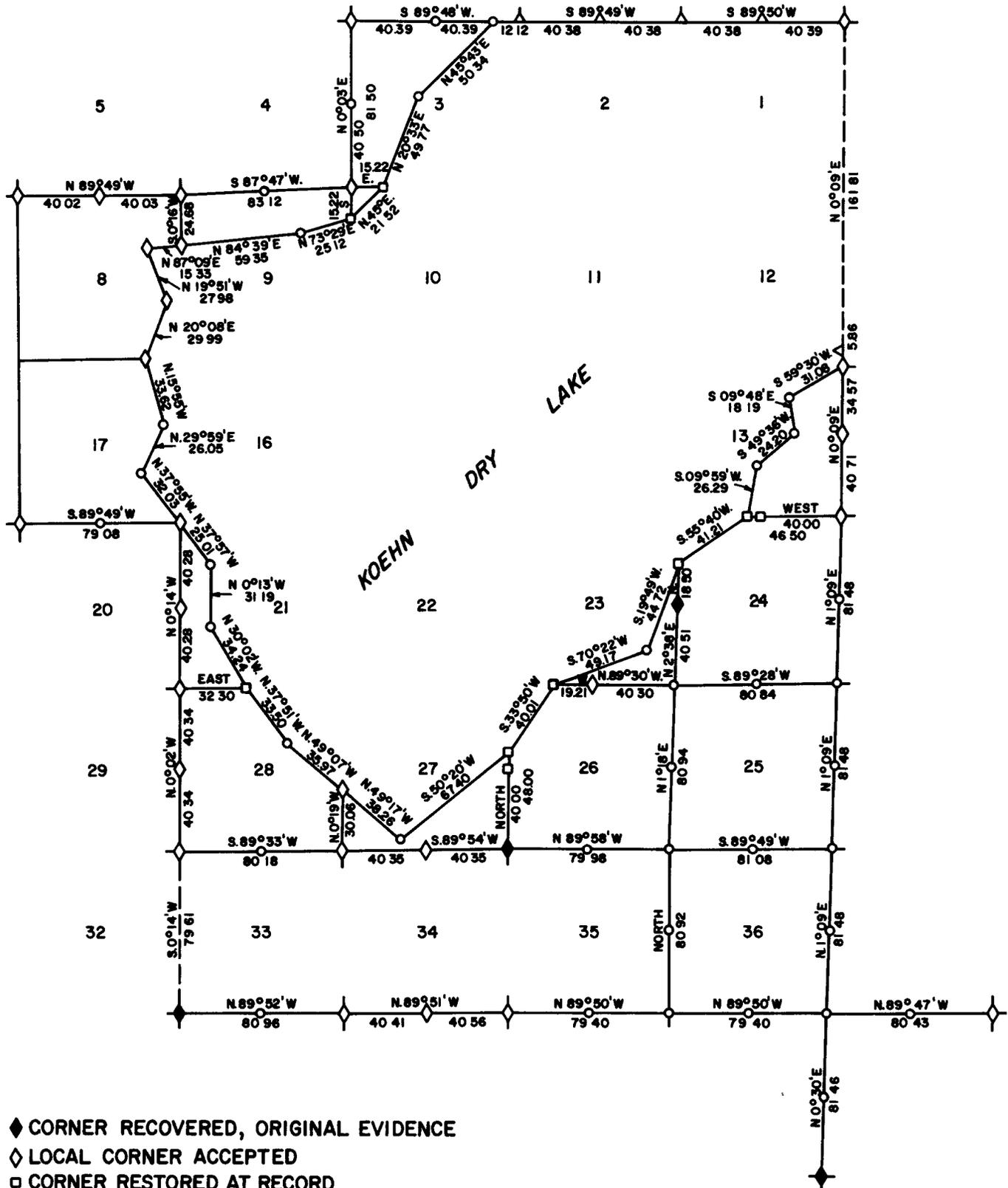


Figure 7 - Dependent Resurvey

Preliminary Statement of the Problem

Following completion of restoration of all the surrounding surveys, the next step was to determine which method of completing the survey of the lands within the dry lake would protect the protracted areas returned on the 1855 plat. The completion must be accomplished so as to stay within the limits of rectangularity and achieve as many normal aliquot parts as possible from the unsurveyed lands.

The Special Instructions contain an extensive treatment of the method for completion of the surveys in this dry lake bed. All of these instructions were prepared before the corner restorations began so that the methods shown were based on the record positions of the adjacent surveys. The surveyor is instructed to perform the completions according to that method if possible.

Regulations

This survey illustrates the application of the following sections of the Manual of Surveying Instructions, 1973:

3-112 to 3-114	Completion of township subdivision
5-25 to 5-28	Single and double proportionate measurement
5-43	Broken boundaries
5-45	Single point control
6-25 to 6-32	Dependent resurvey
7-77 to 7-93	Examples of survey of erroneously omitted areas

Amended Information

The anticipated method of completion shown in the Special Instructions could not be followed. After the resurvey data was obtained and analyzed, another method was required.

Final Statement of the Problem

Although a theoretical plan can be protracted for any completion survey, the final result must be based upon the data obtained in the field concerning the condition of the controlling resurveys. In this situation the survey of the fractional sections had to be executed in a manner that would protect the fractional lotting on the original plat and at the same time stay within rectangular limits within the new areas. Changes in the plan may be required during the progress of the work as closures on other surveys are made.

Solution

The final solution adopted, employing the procedure which follows, is illustrated by the plat accepted July 30, 1971, figure 8.

The east boundary was held to the dependently resurveyed alinement of N. 0° 09' E., from the corner of sections 12 and 13 to the township corner, with corners for sections 1 and 12 established

at 40 and 80 chain intervals with the excess in the last half mile. The first meridional section line was extended N. 0° 08' E., from the meander corner of sections 23 and 24, parallel to the east boundary. The corner of sections 14 and 23 only was established at the intersection of the first meridional line with a line run due East from the corner of sections 16, 17, 20 " and 21. The corner of sections 13 and 24. was established at the intersection of a line run due west from the MC of sections 13 and 24. The corners of sections 2 and 11 as well as sections 11 and 14 were established at 40 and 80 chain intervals in latitude from the southeast corner of section 14. The corner of sections 12 and 13 was established at the point of intersection with a line run due west from the corner of sections 12 and 13 on the east boundary. The ¼ section corner of section 13 was established at midpoint on the west boundary of section 13. The corners on the west lines of section 1 and section 12 were established at 40 and 80 chain intervals from the southwest corner of section 12. The first meridional line was terminated at a closing corner on the north boundary of the township. The ¼ section corner on the north boundary of section 1 was established at midpoint.

The line between sections 14 and 23 was run due West, 80 chains, and the corner of sections 14, 15, 22 and 23 was thus established. The ¼ section corner was placed at midpoint.

The line between sections 26 and 27 was extended due North from the meander corner to an intersection with a line extended due East from the MC of sections 21 and 28. The NE corner of section 27 was established at the intersection.

The southeast corner of section 22 was established at the intersection of the line extended due East from the MC of sections 21 and 28 with a line run due South from the corner of sections 14, 15, 22 and 23. The southwest corner of section 23 was established at the intersection with a line extended due West from the MC between sections 23 and 26. The ¼ section corner of section 23 was established 40 chains north of the southwest corner of the section. The ¼ section corner of section 22 was established 40 chains south of the corner of sections 14, 15, 22 and 23.

From the corner of sections 14, 15, 22, and 23 the second meridional line was surveyed N. 0° 08' E., parallel to the east boundary, to a closing corner on the north boundary. The corner of sections 10, 11, 14, and 15, was established at 80 chains; the ¼ section corner of 10 and 11 at 120 chains; the corner of sections 2 and 11 at 160 chains and the ¼ section corner of section 2 at 200 chains. The corner of sections 3 and 10 was established at the intersection of a line extended due East from the MC of sections 3 and 10. The ¼ section corner for section 3 was established 40 chains north of the southeast corner of the section. The lines between sections 2 and 11 and sections 11 and 14, were surveyed "random and true" with the ¼ section corners at midpoint. The ¼ section corner on the north boundary of section 2 was established at midpoint between closing corners.

The line between section 27 and 28 was extended due North from the MC to an intersection with the line extended due East from the MC of sections 21 and 28, fixing the corner of sections 21, 22, 27 and 28.

The ¼ section corner of sections 27 and 28 was established at midpoint.

The south ¼ section corner of section 22 was established 40 chains west of the southeast corner of the section. The north ¼ section corner for section 27 was placed at midpoint on the north boundary of that section. The ¼ section corner for sections 21 and 28 was also established at midpoint.

The line between sections 21 and 22 was run N. 0° 13' W., parallel to the west boundary of section 21, with the corner of sections 15, 16, 21 and 22 established at the intersection of the line run due West from the corner of sections 16, 17, 20 and 21. The East ¼ section corner for section 21 was set at midpoint. The West ¼ section corner for section 22 was established 40 chains south of the northwest corner of section 22 placing the excess in lots along the south side of section 22.

The $\frac{1}{4}$ section corner for sections 15 and 22 was set 40 chains west of the corner of sections 14, 15, 22 and 23, with the excess in lots along the west side of those sections. The line between sections 16 and 21 was well within limits for measurement and a common $\frac{1}{4}$ section corner was established at midpoint.

The line between sections 15 and 16 was surveyed due North, parallel to the west boundary of section 16, with the $\frac{1}{4}$ section corner set at 40 chains and the corner of sections 15 and 16 only at 80 chains.

The north boundary of section 15 was surveyed "random and true", with the $\frac{1}{4}$ section corner of sections 10 and 15 established 40 chains west of the corner of sections 10, 11, 14 and 15, and the corner of sections 9 and 10 only established at the intersection of a line extended due south from the MC of sections 9 and 10. The $\frac{1}{4}$ section corner of sections 9 and 10 was established at 40 chains north of the corner of those sections, with the excess in section 10 placed in lots along the north and west sides of the section.

The line between sections 3 and 10 was completed by establishing the $\frac{1}{4}$ corner for section 10 at 40 chains west of the northeast corner of the section. The $\frac{1}{4}$ section corner for section 3 was established 40 chains east of the corner of sections 3, 4, 9 and 10, protecting the protracted north and south centerline on the 1855 plat.

Since the line between sections 17 and 18 could not be retraced, recourse had to be made to the 1855 record for the bearing of that line. Therefore the line between sections 16 and 17 was surveyed due North, with the $\frac{1}{4}$ section corner of section 16 at 40 chains and the corner of sections 9 and 16 established at 80 chains.

The line between sections 9 and 16 was surveyed "random and true," with the $\frac{1}{4}$ section corner for section 16 set at midpoint on the north boundary of that section and the $\frac{1}{4}$ section corner for section 9 established at midpoint on the south boundary of section 9.

The west boundary of section 9 was surveyed "random and true," from the corner of sections 9 and 16 to the meander corner. It happened that the bearing of the line was an extension of the resurveyed portion lying north of the dry lake. The $\frac{1}{4}$ section corner for section 9 was set at 40 chains north of the southwest corner of the section.

The line between sections 8 and 17 was extended due east from the MC to an intersection with the west boundary of section 9, where the corner of sections 8 and 17 was established. The east $\frac{1}{4}$ section corner for section 17 was set at midpoint on the east boundary of that section. The east $\frac{1}{4}$ section corner for section 8 was placed at midpoint on the east boundary of section 8, completing the survey of the subdivisional lines in the township.

Supplementary Topic No.1 –Rectangular limits

Three technical errors appear on the accepted plat (in addition to the error indicated by the marginal note).

The line between sections 21 and 22 (80.56 chains) and the north boundary of section 27 (80.84 chains) are in excess of the rectangular limits (50 links) prescribed in section 3-34 of the 1973 Manual. The east $\frac{1}{4}$ corner of section 21 and north $\frac{1}{4}$ corner of section 27 were properly established at midpoint positions, but the half miles exceed the 25 link limit per half mile. The east half of section 21 and all of the north half of section 27 should have been lotted.

Supplementary Topic No.2 -Protecting Prior Rights

The fractional areas in section 3, as returned on the 1855 plat, are based on a length of 80.32 chains for the unsurveyed east boundary of section 3. In this resurvey the south and east boundaries of section 3 were properly completed. To properly protect the patented fractional areas in section 3, however, the corners on the east boundary of section 3 should have been proportioned on the basis of an 80.32 chain record mile, i.e., 20.36, 40.72, 61.08 and 81.77 chains. All of the (new) areas in section 3 would then be lotted with areas shown.

TOWNSHIP 30 SOUTH, RANGE 38 EAST, OF THE MOUNT DIABLO MERIDIAN, CALIFORNIA.

DEPENDENT RESURVEY AND SURVEY

T 30S, R 37E, MDM

T 29S, R 39E, MDM

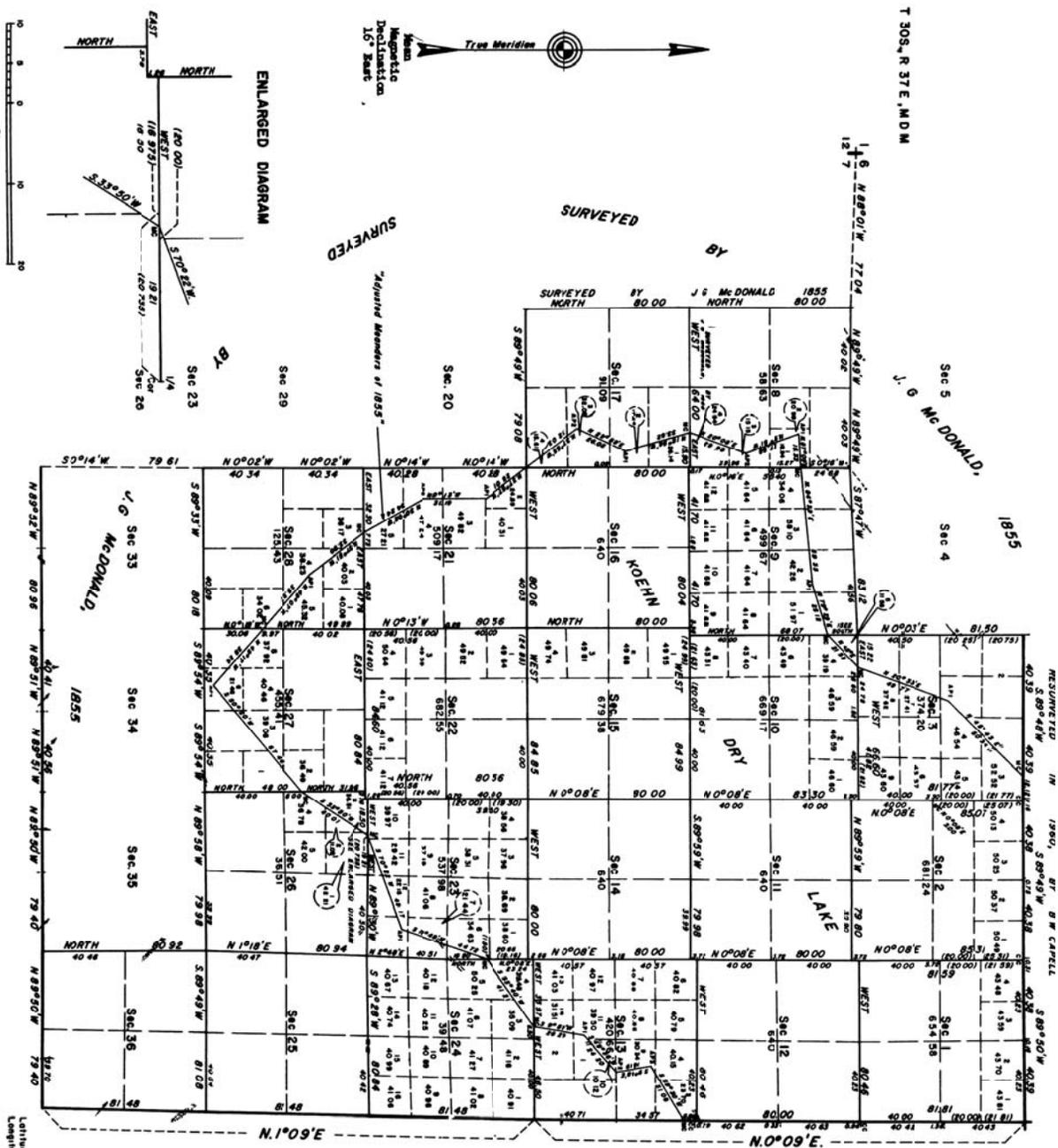
A history of prior surveys is given in the field note record.

This plat represents the dependent resurvey of the east boundary and the corner lines of Koehn Dry Lake, a portion of the north and south boundaries and subdivisional lines, designed to restore the corners in their true original locations according to the best available evidence, and, the survey to complete the subdivision of T. 30 S., R. 38 E., Mount Diablo Meridian, California.

Except as indicated, the lottings and areas are as shown on the township plat approved January 19, 1896.

This survey was executed by
 Cadastral Surveyors,
 September 15, 1960, to December 2, 1966, under Special and Supplemental Special Instructions dated September 9, 1960, and November 2, 1966, respectively, for Group No. 406, California.

Note: The bearing and distance bet. AP2 and AP1 in Section 8, is in error; 2nd above read N. 19° 01' W., 87.98 chs., RFB 9/5/72



Latitude 38° 16.3' N
 Longitude 117° 50.6' W

Chief, Division of Cadastral Survey

Walter J. Hennes

For the Director

UNITED STATES DEPARTMENT OF THE INTERIOR
 BUREAU OF LAND MANAGEMENT
 Washington, D. C.
 JULY 30, 1971

This plat is strictly conformable to the requirements of the laws and the regulations of this Bureau, is hereby accepted.

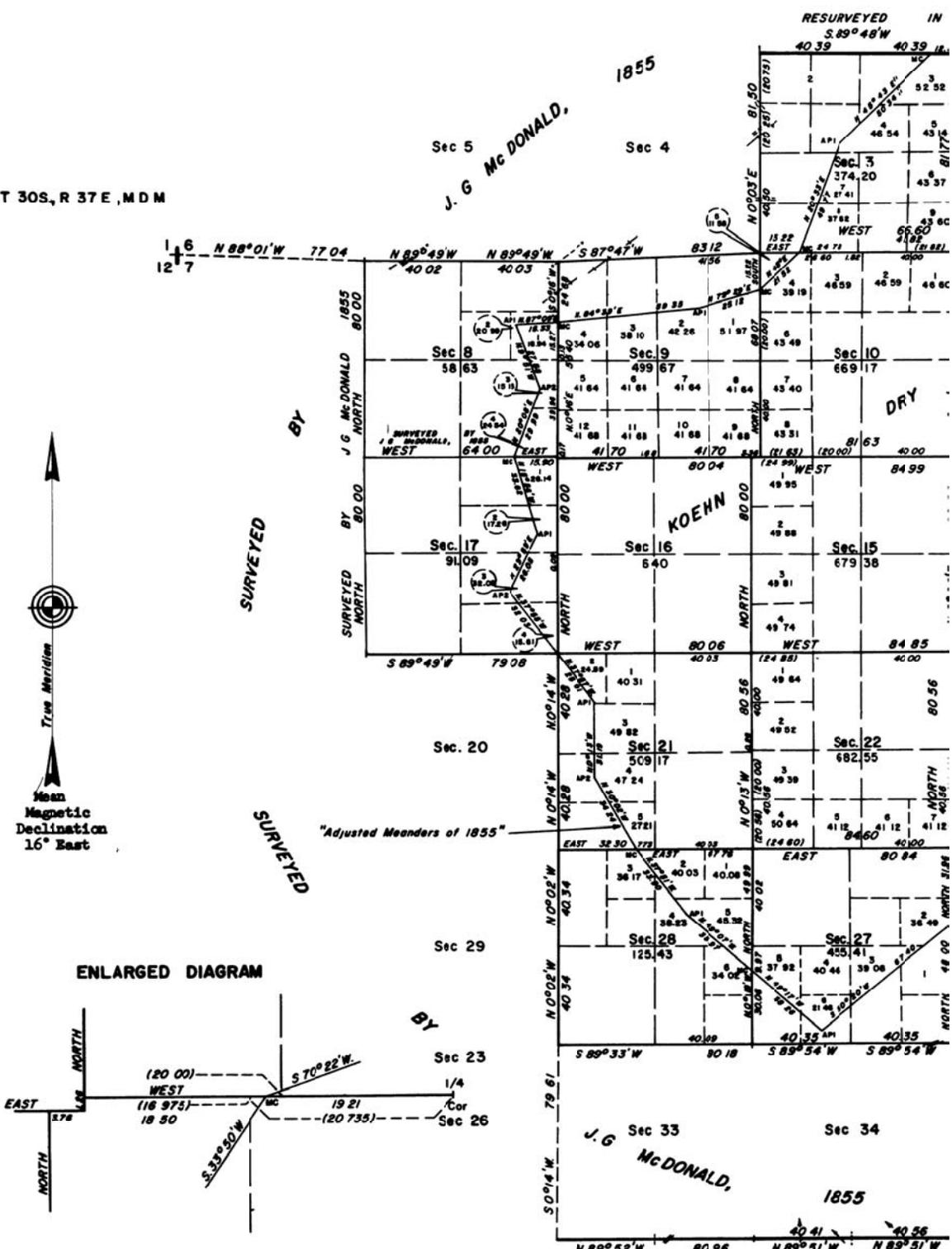
Area resurveyed: 6,126.69 Acres
 Area surveyed: 9,075.15 Acres

Figure 8

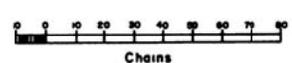
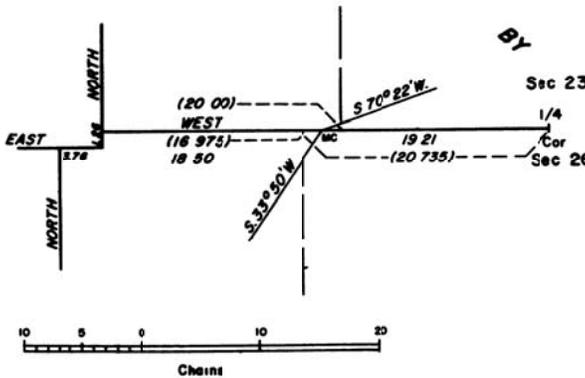
TOWNSHIP 30 SOUTH, RANGE 38 EAST, OF THE DEPENDENT RESURVEY AND

Note: The bearing and distance of AP2 and AP1 in Section 9,
 is in error. It should read N. 19° 51' W., 27.98 chs. AP2 9/17/73

T 30S, R 37E, MDM



ENLARGED DIAGRAM

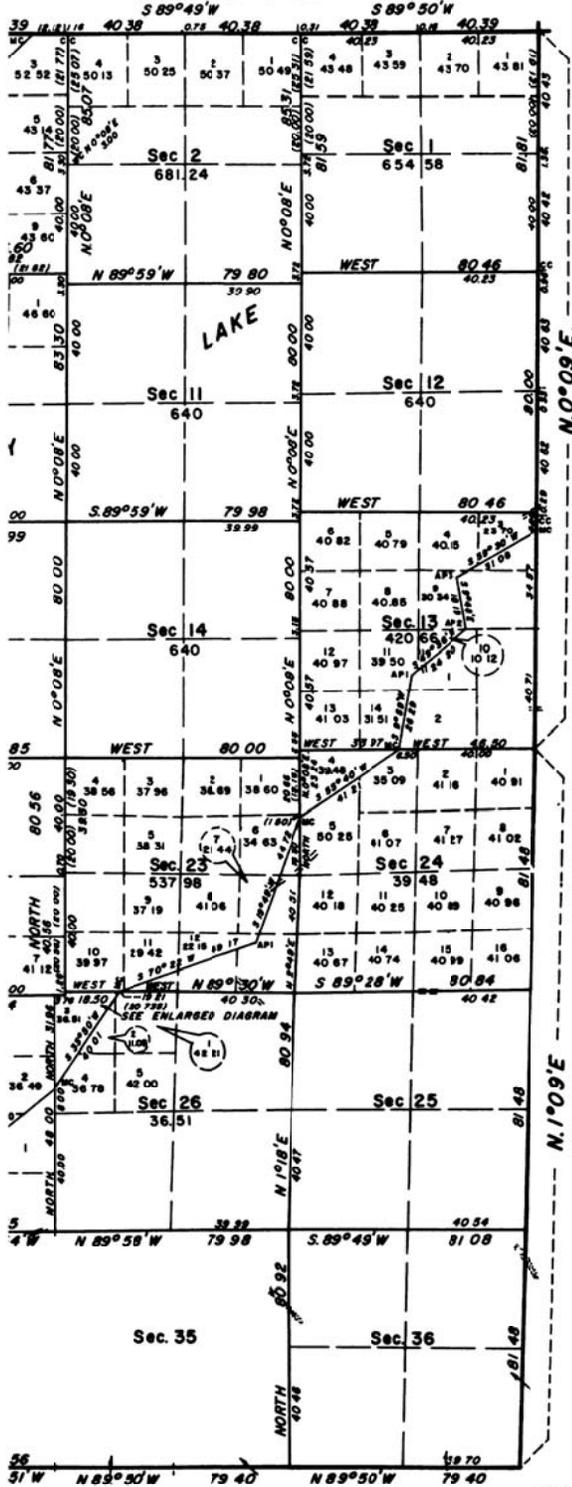


Area resurveyed: 4,124.69 Acres
 Area surveyed: 9,075.15 Acres

THE MOUNT DIABLO MERIDIAN, CALIFORNIA. AND SURVEY

IN 1960, BY BW CAPELL

T 29S, R 39E, MDM



T 30S, R 39E, MDM

A history of prior surveys is given in the field note record.

This plat represents the dependent resurvey of the east boundary and the meander lines of Koehn Dry Lake, a portion of the north and south boundaries and subdivisional lines, designed to restore the corners in their true original locations according to the best available evidence, and, the survey to complete the subdivision of T. 30 S., R. 38 E., Mount Diablo Meridian, California.

Except as indicated, the lottings and areas are as shown on the township plat approved January 19, 1856.

This survey was executed by
Cadastral Surveyors,
September 15, 1960, to December 2, 1966, under Special and Supplemental Special Instructions dated September 9, 1960, and November 2, 1966, respectively, for Group No. 464, California.

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
Washington, D. C. July 30, 1971

This plat is strictly conformable to the approved field notes, and the survey, having been correctly executed in accordance with the requirements of law and the regulations of this Bureau, is hereby accepted.

For the Director

Clark L. Hoover

Chief, Division of Cadastral Survey

Latitude 35° 16' 3" N
Longitude 117° 50' 6" W