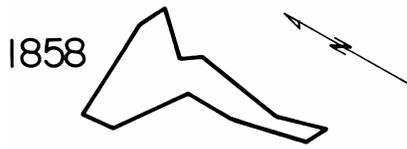
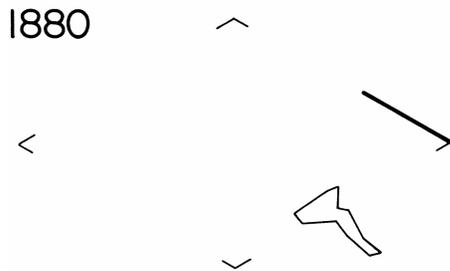


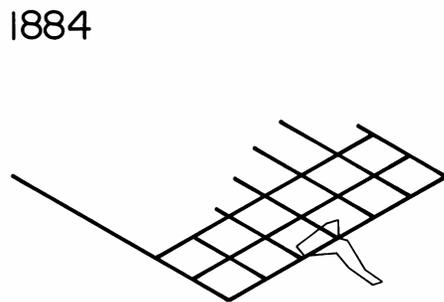
History of Surveys



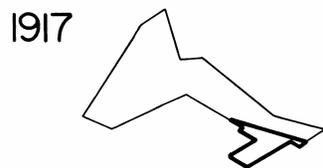
1858 John C. Hays surveyed the boundaries of the Potrero de La Cienega Grant in sections 33 and 34, of T. 6 S., R. 5 W., and in unsurveyed, protracted sections 3, 4, 9 and 10 of T. 7 S., R. 5 W., San Bernardino Meridian.



1880 George Sandow established the southeast corner of T. 6 S., R. 5 W., and surveyed the east boundary.

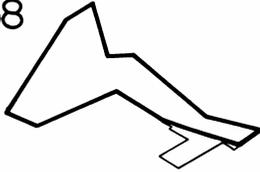


1884 D.N. Sanford surveyed the south boundary and subdivisional lines of the township. The Sanford Survey is as shown on the plat approved April 28, 1885. A portion of that plat is illustrated in figure 1. Sanford reported that Corner No.5 of the Potrero Grant is also his corner of sections 33 and 34.



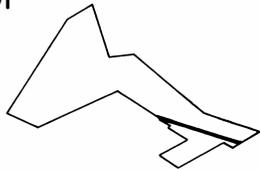
1917 Percy L. Day, Forest Service surveyor, surveyed Homestead Entry Survey No. 237 adjoining the westerly side of the Potrero. The plat of the survey, shown in figure 3, was approved July 26, 1917. Day reportedly recovered corners 1, 10 and 11 of the Potrero, each occupied by the original live oak corner trees. Day established corner No.1 of the H.E.S. on line 10-11 of the Potrero survey and monumented the point with a brass-capped iron post. Day reportedly made a traverse tie from corner No.1 of the H.E.S. to the corner of section 33 and 34, which was also corner No.5 of the Potrero Grant as returned by Sanford.

1958



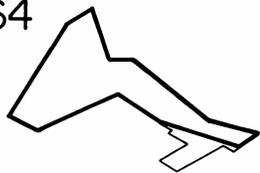
1958 Manning Engineering Company made a resurvey of the Potrero boundaries. This survey indicates that corner No.1 of the Potrero and corner No.1 of the H.E.S. were found and positively identified. The Manning map indicates that they found and accepted a "pipe and marker" or "posts," for corners 2, 3, 5, 8 and 9 and the closing corner on line 9-10 of the Potrero Grant survey. The Manning map also indicates that iron pipes were set for corners 4, 6, 7 and 10 of the Potrero, as well as other pipes for points of private land divisions.

1961



1961 Norman A. Neste, C.E. 8613. resurveyed the lines between the Potrero Grant and H.E.S. 237. Neste found corner No.1 of the H.E.S. and corner No.1 of the Potrero Grant (identical with corner No.10 of the H.E.S.) and restored corner No. 11 of the Potrero in the stump hole of the original corner tree, monumenting the point with an iron pipe and brass tag.

1964



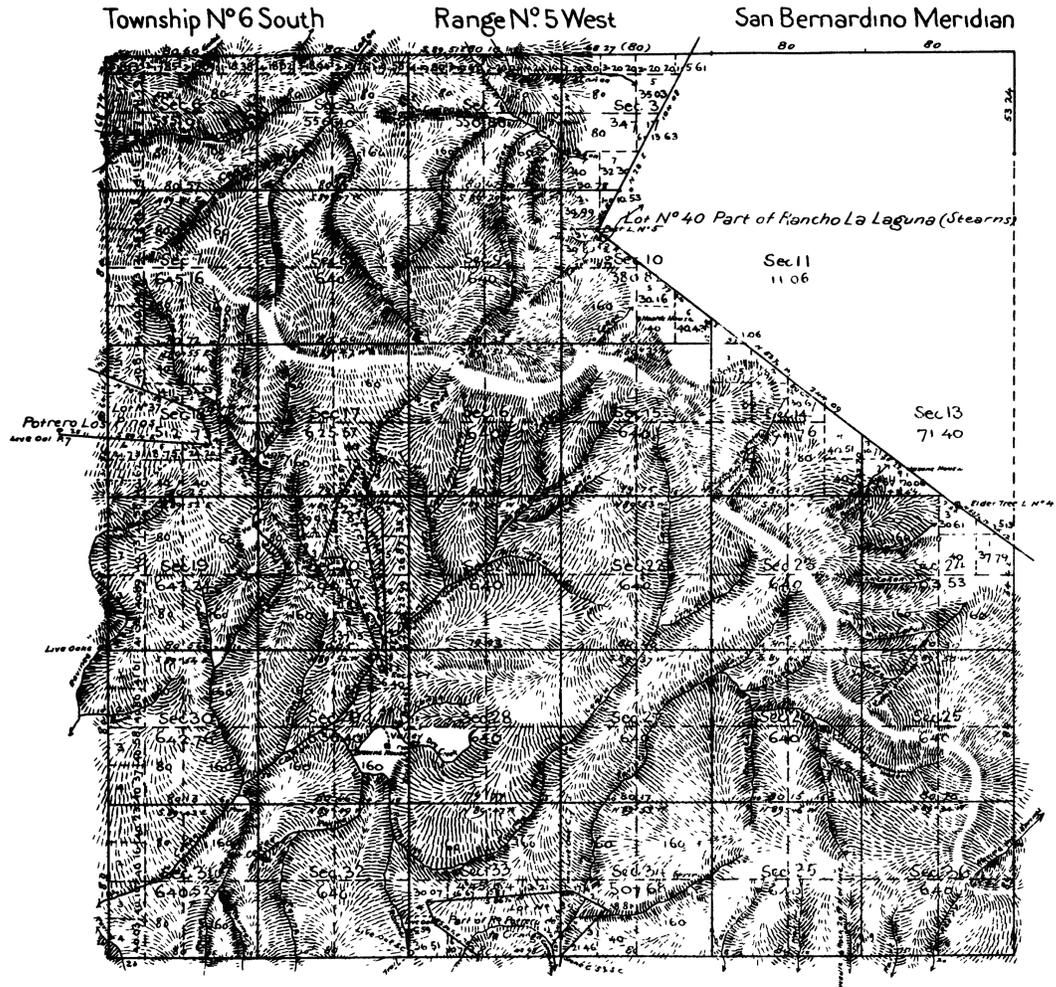
1964 The Harold L. Johnson Engineering Company made a preliminary survey of the Potrero Grant at the request of the Girl Scouts of America, owners of the lands adjacent to the Potrero Grant. Recovery of original corner trees are indicated at corners 2, 4, 7, 9 and 10 of the Potrero Grant survey at the Hays record positions. The Manning survey points are shown at grossly different positions.

Reasons for Request of this Survey

Harold L. Johnson, supported by two congressmen and a senator, requested a BLM determination of the boundaries of this grant on behalf of the Girl Scouts of America. Mr. Johnson's map did not provide definite conclusions. It did indicate conflicting positions for the grant boundaries and adjacent section corners. The area in question is within the boundaries of the Cleveland National Forest.

Special Instructions

Special Instructions for Group 516, California, were prepared on February 26, 1965. The instructions direct an investigation of the conditions and identification of the boundaries of the Potrero Grant survey, H.E.S. No. 237 and the south boundary of T. 6 S., R. 5 W.



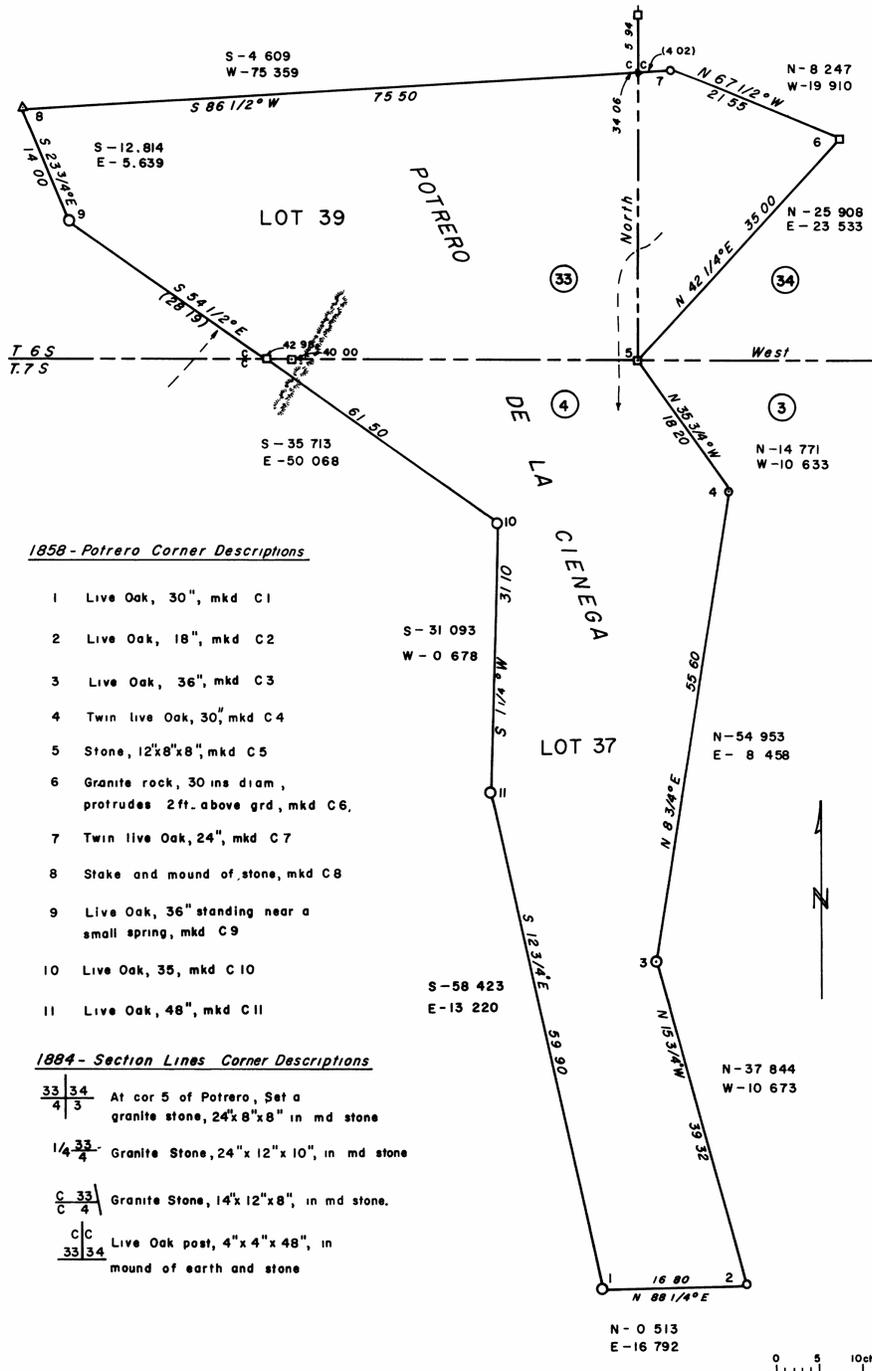
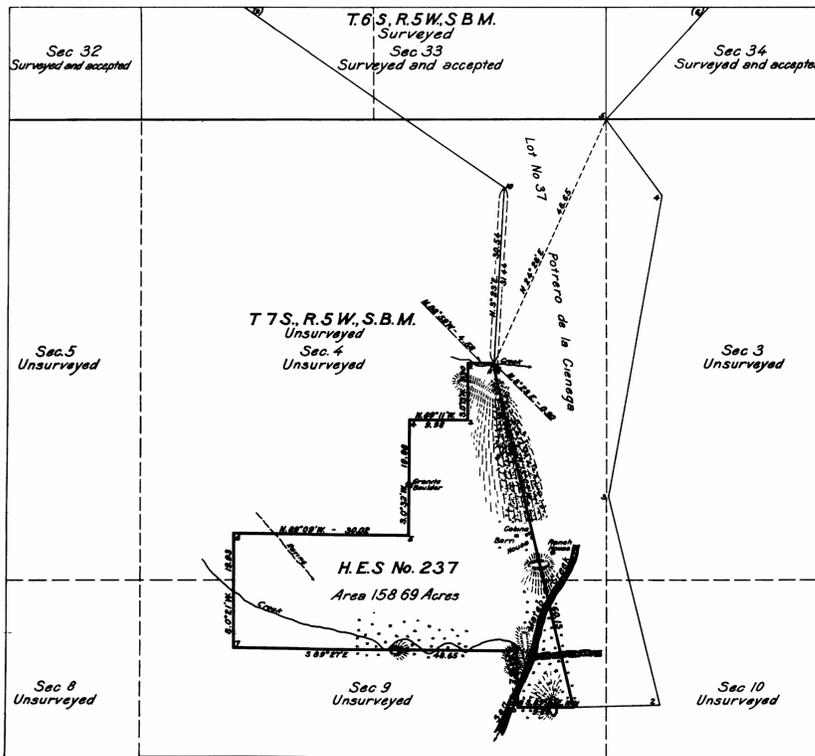


Figure 2 - Original Record, Showing Latitudes and Departures



Plat of
**HOMESTEAD
 ENTRY SURVEY**
 No. 237
 in the
**CLEVELAND
 NATIONAL FOREST**
 in
 Section 4 unsurveyed, T. 7 S., R. 5 W.,
 Section 9 unsurveyed, T. 7 S., R. 5 W.,
 of the
SAN BERNARDINO MERIDIAN
CALIFORNIA

This plat of Homestead Entry Survey No. 237 State of California is strictly conformable to the field notes thereof on file in this office, which have been examined and approved
 U.S. Surveyor General's Office
 San Francisco, California
 July 26, 1917
 Frank H. Gossett
 U.S. Surveyor General for District No. 9

I hereby certify that this is a true and correct copy of the original survey of the lands to which it relates on file in this office.
 U.S. Surveyor General's Office,
 San Francisco, California
 March 21, 1918

Initials J 98
 Examined by J 6 P

SCALE - 10 - chains to 1 inch

Survey Designated	By whom Surveyed	Dist. Cont. Group No.	When Surveyed		Date of Approval
			Began	Completed	
Lot No. 37	John C. Hays	1858	September 1, 1858	October 18, 1858	October 18, 1858
S. 4, T. 7 S., R. 5 W.	D. N. Stanford	1884	June 3, 1884	April 29, 1885	April 29, 1885
H. E. S. No. 237	Percy L. Day	237	December 20, 1916	March 27, 1917	July 26, 1917

H. E. Survey No. 237	Areas in Acres	
	In Section	Conflicts
In Section		
In Section		
In Section		
Total	158.69	

Act of June 11, 1906 Act of August 11, 1906
 List No. 5 - 2509 Dated May 3, 1916
 Latitude 33° 34' N. Observation of
 Longitude 117° 24' W. Corner No. 11, Lot 37
 Mean Mag. Decl. 16° 00' E. Potrero de la Genega

Figure 3 - HES Survey

Conditions Found on the Ground

The area is generally covered with the dense growth of chamiso typical of the southern California coastal mountains. This brush is very susceptible to the intense fires which frequently burn over the area.

The frequent fires and fire fighting operations had obliterated or destroyed survey corners. The Forest Service had been constantly confronted with the question of the location of the boundaries of the Potrero Grant.

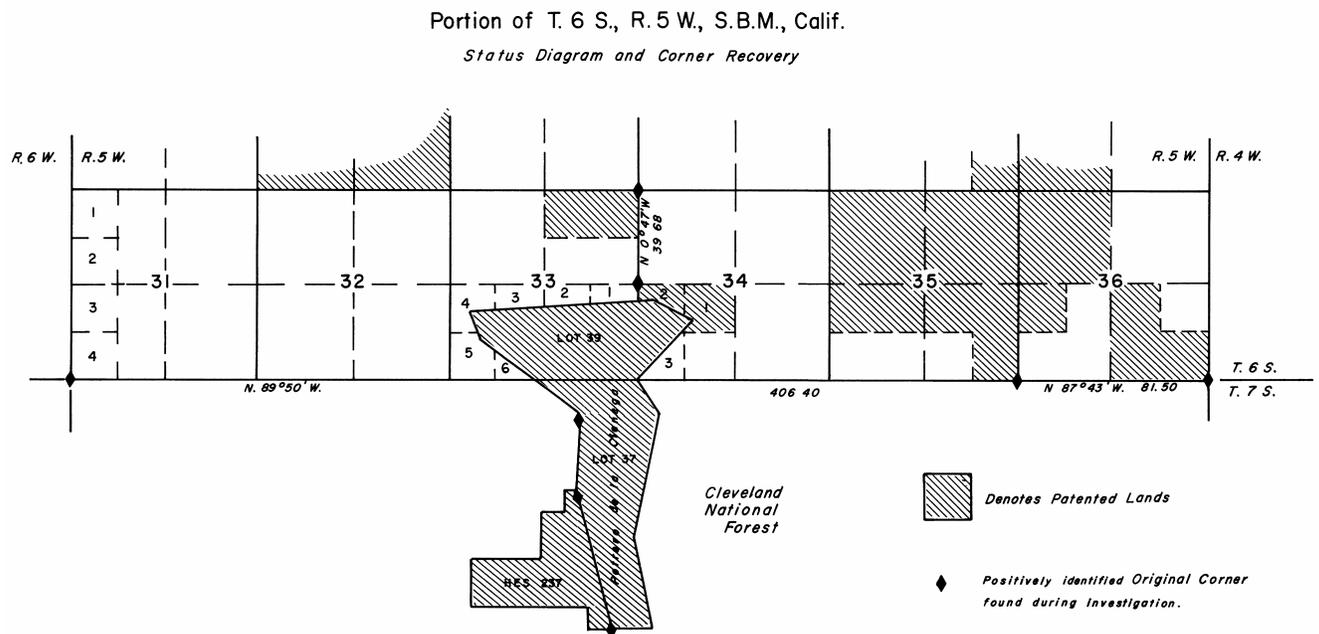
Hays, in 1858, marked mature live oak trees at most of his corners. A live oak tree is susceptible to heart rot when it approaches or reaches maturity. Once the heart rot is exposed it becomes prone to fires. In searching for the original corners the Forest Service and CCC personnel had opened what may have been blazes on about every live oak tree in the vicinity of the record position of the original corners of the Potrero Grant. When the record courses were retraced from corner No. 1, several live oak trees with chopped out and decaying holes were found near each record corner position; but none with any trace of scribe marks. Most of the trees also bore a profusion of axe and wire scars because they had been used as living fence posts when the Potrero Grant was utilized for stock raising.

There were a number of possible monuments at each corner because after each fire someone would "replace the corners" of the Potrero Grant by using a compass and set a white-painted

wood post at a "corner." The next fire would burn up the post and the cycle would be repeated. Since these "surveys" were unofficial there is no record of who did them or what was done.

The Manning Engineering map, made in 1958, indicates that they merely accepted these posts, and in some cases iron pipes, without verification. On that basis they set more iron pipes, thus adding to the confusion and proliferation.

The southeast and southwest corners of the township, the corner of sections 35 and 36 on the south boundary, the 1/4 section corner of sections 33 and 34, and the corner of sections 27, 28, 33 and 34 were found and positively identified during the investigation. Corner Nos. 1, 10 and 11 of the Potrero Grant and corner No.1 of H.E.S. No. 237 were also recovered and positively identified. The latter four points were all within a few links of being in the positions as shown on the H.E.S. plat and as described in the field notes of that survey. Figure 4 illustrates the land status at the time and the corners recovered during the investigation.



Other information developed during the corner search follows.

A literal translation of Potrero de la Cienega is a horse (or colt) pasture (or corral) near (or at) a place containing water. Or, perhaps, a horse meadow. It therefore appears logical that Hays' intention was to survey all the usable meadow area historically occupied and used by the Spaniards as a horse pasture. He would have, as far as was practical, extended his survey to include the springs or water sources.

Corner No.1 of the Potrero Grant was a live oak tree, 50 inches in diameter (record 30 inches) with bearing trees described by the H.E.S. survey. The record courses were retraced from corner No.1 of the Potrero Grant, setting temporary points at each expected corner location.

All trees were examined in the vicinity of each temporary point. The live oak trees near the temporary points were found to be neither large enough nor old enough to be original corners. Not one could be found containing any scribe marks or other evidence to verify that it was an original corner tree marked in 1858.

From each record position, progressively from corner No.1, ties were made to all found posts or iron pipes, etc., with the following results:

From record position of corner No.2

A 4 x 4 ins., forestry location post, painted white, bears S. 83° 0 15' E., 1.464 chs. distant

From record position of corner No.3

A 4 x 4 ins. forestry location post, in a mound of stone and painted white, bears S. 44° 01' E., 3.044 chs. distant

From record position of corner No.4

An iron pipe, 2 ins. diam., bears S. 43° 06' E., 5.832 chains distant, probably set by Manning Engineering in 1958

From record position of corner No.5

A 4 x 4 ins. forestry location post and a 2 in. diam. iron pipe, bears S. 15 ° 22' E., 6.372 chs. distant. This post and pipe is N.. 24° 27' E., 46.63 chs. from corner No.1 of H.E.S. 237.

The proportionate point for the corner of sections 33 and 34 on the south boundary of T. 6 S., R. 5 W., bears S. 48° 29' E., 6.468 chains distant. This point is at single proportionate position between the corner of sections 35 and 36, and the southwest corner of the township.

From the record position of corner No.6

No iron pipes or posts were found. This point is located on private land approximately between 2 small springs, 2 chains south and 3 1/2 chains north.

From the record position of corner No.7

No iron pipes or wood posts were found. The original ¼ section corner of sections 33 and 34, bears N. 60° 28' E., 1.624 chains distant. This point was monumented with a 3 x 3 ins. post in a bulldozed fire break, at record bearing and distance from the original live oak bearing tree.

From the record position of corner No.8

A mound of stone, 3 ft. diameter, 1 ft. high, bears S. 18° 18' E., 5.618 chains distant, with a 4 x 4 ins., 6 feet long, white painted post, lying beside the mound of stone. This mound of stone is in an area of large boulders and has the appearance of being in place for a long period of time.

From record position of corner No. 9

No posts or pipes were found. A spring mentioned by Hays, which drains northwesterly and is located in a ravine near the westerly edge of an open meadow, known as "Round Potrero," bears N. 75° 21' E., 4.11 chains distant. This spring was a favorite campsite.

From the record position of the closing corner on line

9-10 of the Potrero, counting from the corner No.9, A 4 x 4 ins. forestry location post, painted white, bears S. 21° 07' E., 6.114 chains distant. This

post is N. 88° 55' W., 42.64 chains distant from the post and iron pipe previously tied in from the record position of corner No.5.

At record position of corner No. 10

An iron pipe, 2 inches diameter, with brass tag marked RCE 7676, bears S. 10° 45' W., 3.85 chains distant. This pipe is shown as being set by Manning Engineering Company in 1958.

A live oak tree, 51 inches diameter, with open and rotted blazes on east and northeast sides bears N. 8° 42' E., 93 links distant. This tree is very old; it was reported as 44 inches in 1917 and 35 inches in 1858. It stands on the west edge of an undisturbed portion of the valley and is in the position described by H.E.S. 237 for corner No. 10.

From record position of corner No. 11

The iron pipe set by Neste in 1961 in the center of a large stump hole, and at record position in relation to the bearing trees marked in 1917, bears N. 58° 36' W., 1.122 chains distant.

The original corner tree was reported by Day in 1917 as being 50 inches diameter. This tree has been totally consumed by fire and the iron pipe is in the stump hole.

From the pipe set by Neste, corner No.1 of H.E.S. 237 bears N. 3° 14' E., 0.90 chains distant. It is monumented with the original brass capped iron post. From this H.E.S. corner an original bearing tree, a live oak, 18 inches in diameter bears S. 82° E., 70 links distant. There is no trace of the original northwest bearing tree for H.E.S. corner No.1.

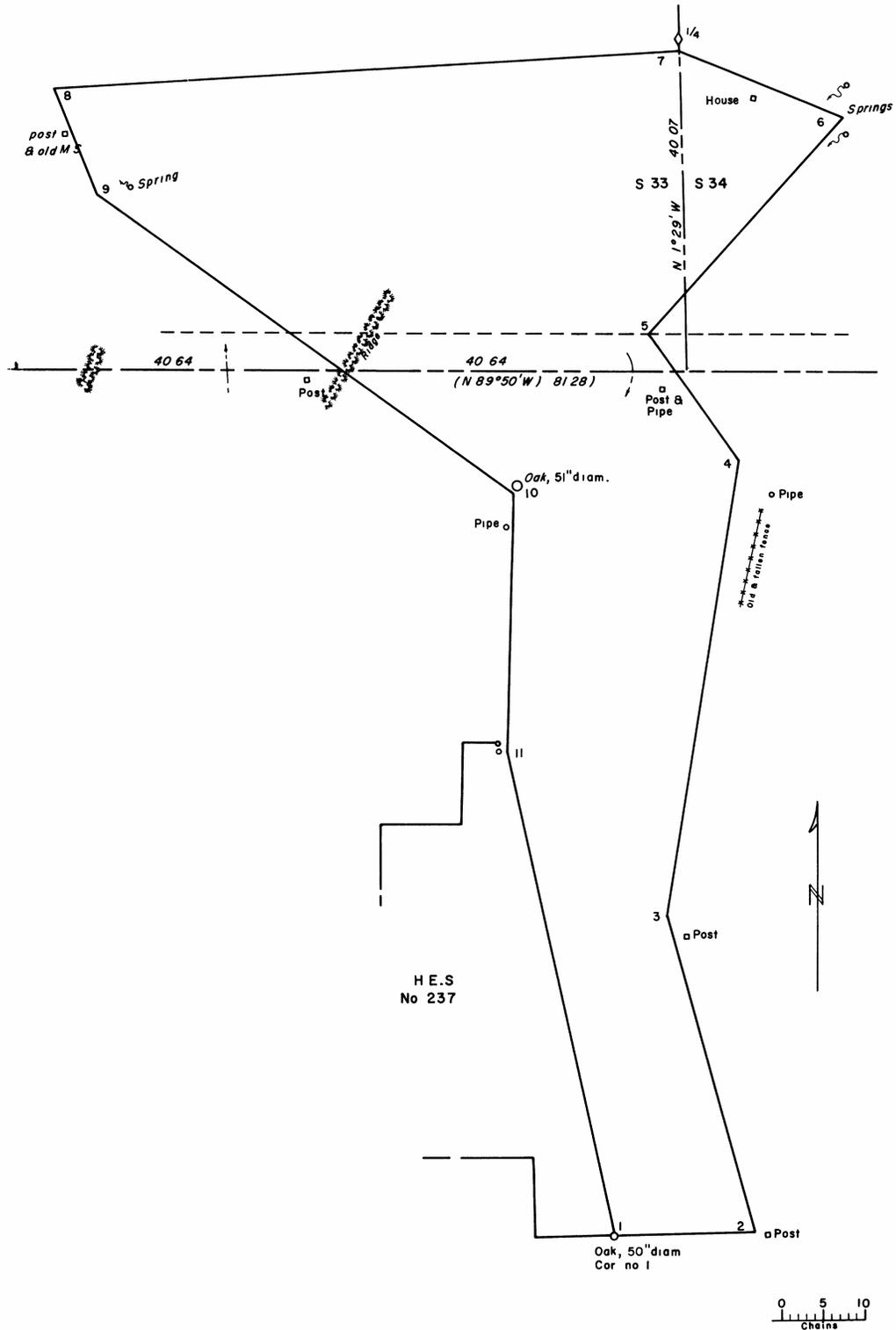


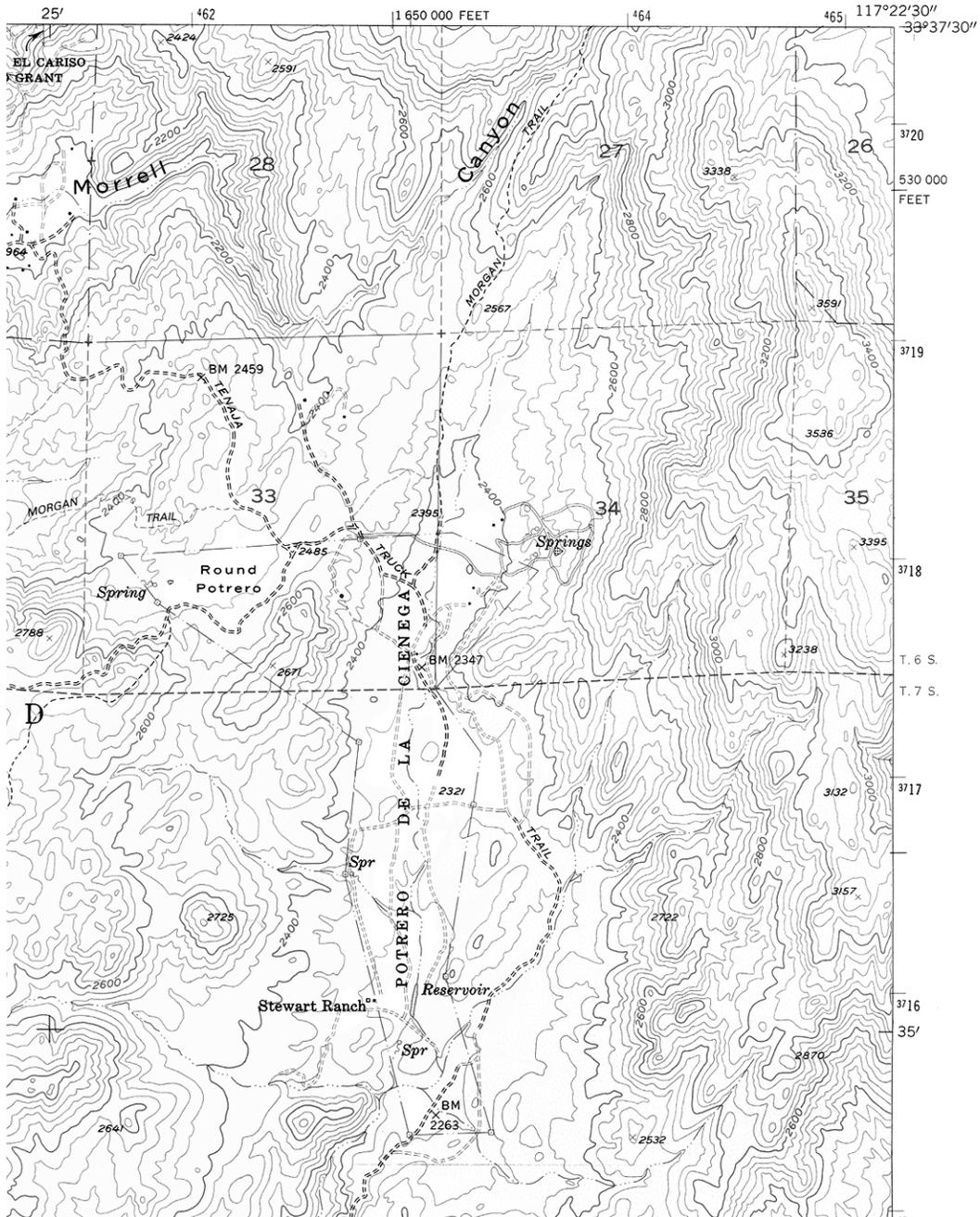
Figure 5 - Evidence Relative to Record Courses

Figure 5 illustrates the relative position of all points given in the foregoing information. Figure 6 is a portion of the Sitton Peak Quadrangle covering the area. The only other item of physical

evidence on the ground is a short section of old and fallen fence, which had been fastened to both trees and posts, adjacent to the record course between corners 3 and 4. This fence is shown in figure 5 and is across the open area shown on the contour map.

SITTON PEAK QUADRANGLE
CALIFORNIA
7.5 MINUTE SERIES (TOPOGRAPHIC)

2851 1/4 NE
(LAKE ELSINORE)



Preliminary Statement of the Problem

The surveyors' first major problem is one of evaluating and weighing evidence when a large array of conflicting locations are present. When the evidence to be retained is determined and locations to be rejected are removed, an equitable adjustment and restoration must be determined for the lost corners.

Regulations

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

- | | |
|---------------------|------------------------------------|
| 5-44 | Grant boundaries |
| 5-4 to 5-16 | Identification of existent corners |
| 5-20 to 5-23 | Restoration of lost corners |

Final Statement of the Problem

Resolution of ambiguous corner information must be undertaken first. Testimony by unbiased witnesses is the best means of resolution of such conflicts where the monument itself cannot be proven genuine. The township boundary and the grant boundary must be restored using the best available evidence.

Solution

A retired Forest Service employee was contacted through the Forest Supervisor and the Regional Office in San Francisco. This retiree was interviewed in Santa Anna. He had ridden on horseback into the area as far back as the 1920's and had camped at the small spring near the "Round Potrero." He stated that older employees had frequently pointed toward the brushy and boulder strewn area northwest of the spring and told him, "A mound of stone over there is a corner of the Potrero." He had never climbed through the brush and personally examined the mound of stone; he just knew it to be there. The retiree also stated that he had never known or heard of any authentic monument near corner No.5, nor any other corners of the Potrero Grant except the tree for corner No.1 and the mound of stone at Corner No.8. He stated that over the years various Forest Service personnel had tagged trees or set posts where they thought corners should be, or might be, but so far as he knew none were anything more than approximations.

When the township boundary was restored by single proportionate measurement, each mile proportioned out to 81.28 chains, on a bearing of N. 89° 50' W. From the proportioned corner of sections 33 and 34 the original 1/4 section corner was N. 1° 9' W., 40.07 chains distant. The north half mile between these sections was found to be N. 0° 47' W., 39.68 chains in length.

Going west on the south boundary of section 33 through the Potrero Grant, the Sanford field notes called for an arroyo at 2.00 chains, a ridge at 38.60 chains, the 1/4 section corner at 40.00 chains and the closing corner on line 9-10 of the Potrero Grant at 42.98 chains.

The dependent resurvey of the south boundary of section 33 found the arroyo at 6.40 chains, proportioned 1/4 section corner at 40.64 chains and the ridge top at 41.00 chains.

Thus the topographic calls were not greatly at variance with the record. Every attempt was made to fit all the record calls of topography together into a fixed locus for Corner No.5 of the Potrero Grant and the corner of sections 33 and 34. All efforts proved fruitless. The Cienega Arroyo is in the wide valley bottom, and has several channels. These channels could easily have shifted in

position due to erosion caused by heavy rains after fires had killed the hillside brush cover. The ridge top bears in a N. 30° E., and S. 30° W., direction and as any line is shifted in latitude, even by several chains, it could still fit the record very closely. The original calls were close enough however, to verify that Sanford had, in fact, surveyed the lines. The Sanford plat also shows a spring north and east of Corner No.9. The Forest Service had long used Round Potrero and the spring as a camp ground. Sanford probably used the same camp in 1884. He then would have known the approximate location of the spring in relation to Corner No.9, even though he didn't make a direct tie to it. When Hays surveyed the Potrero Grant he had to cross the ridge and run his lines around the "Round Potrero" to include it in the survey, and would surely have included the spring. Thus there can only be the conclusion that both Hays and Sanford executed their surveys in good faith and the Sanford plat is a true representation of conditions as he found them in 1884. If this conclusion is accepted, there is then no doubt that Corner No.5 of Potrero de la Cienega Grant and the corner of sections 33 and 34 are one and the same point.

The next step was to decide the most logical and equitable method of restoring the lost corners.

Since a single proportion of the township line resulted in a logical relationship between the proportioned corner of sections 33 and 34 and the recovered 1/4 section corner of sections 33 and 34, and was not greatly in disagreement with the topographic calls, the township line was restored by single proportion, fixing the position of corner No.5 of the Potrero Grant.

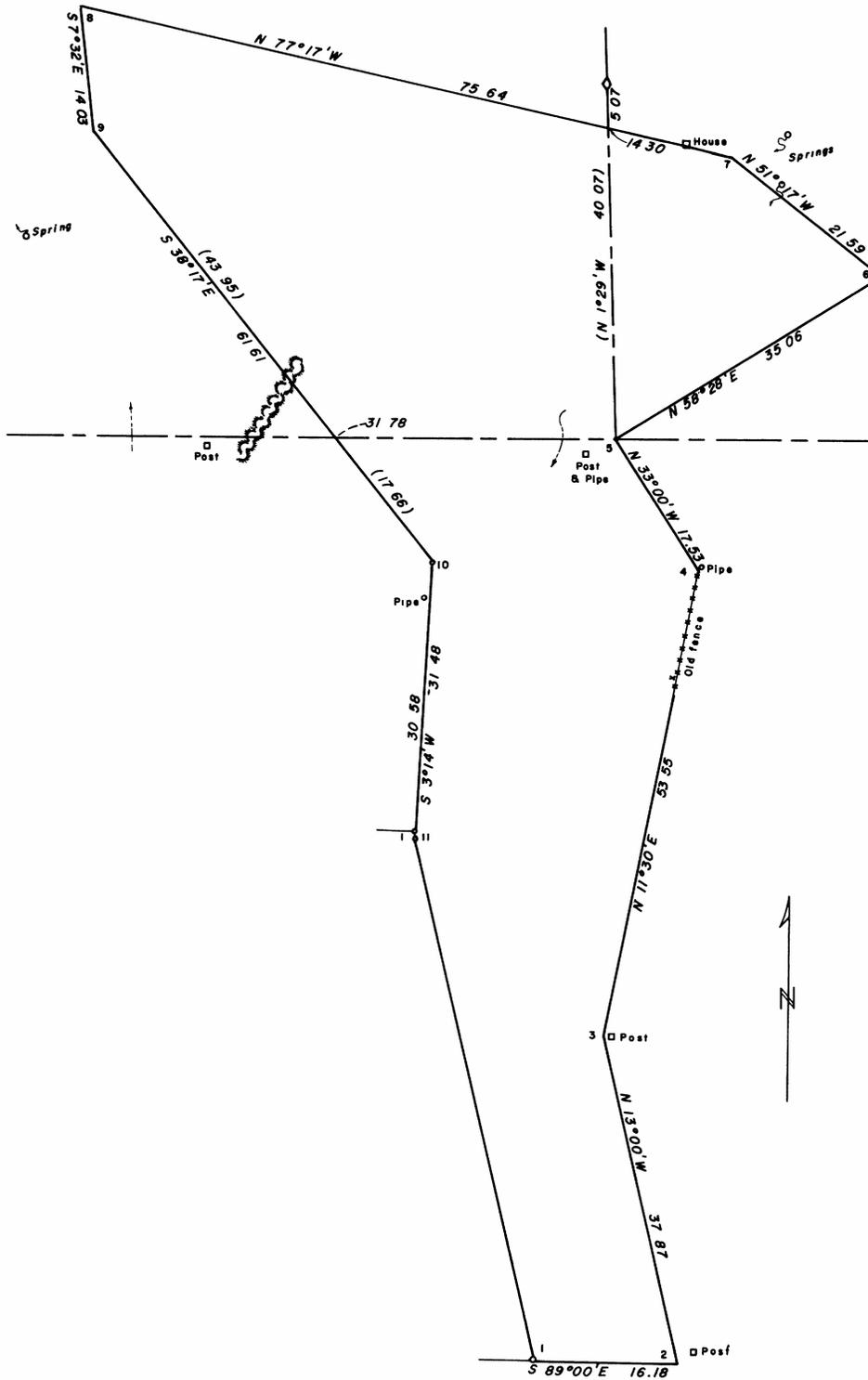
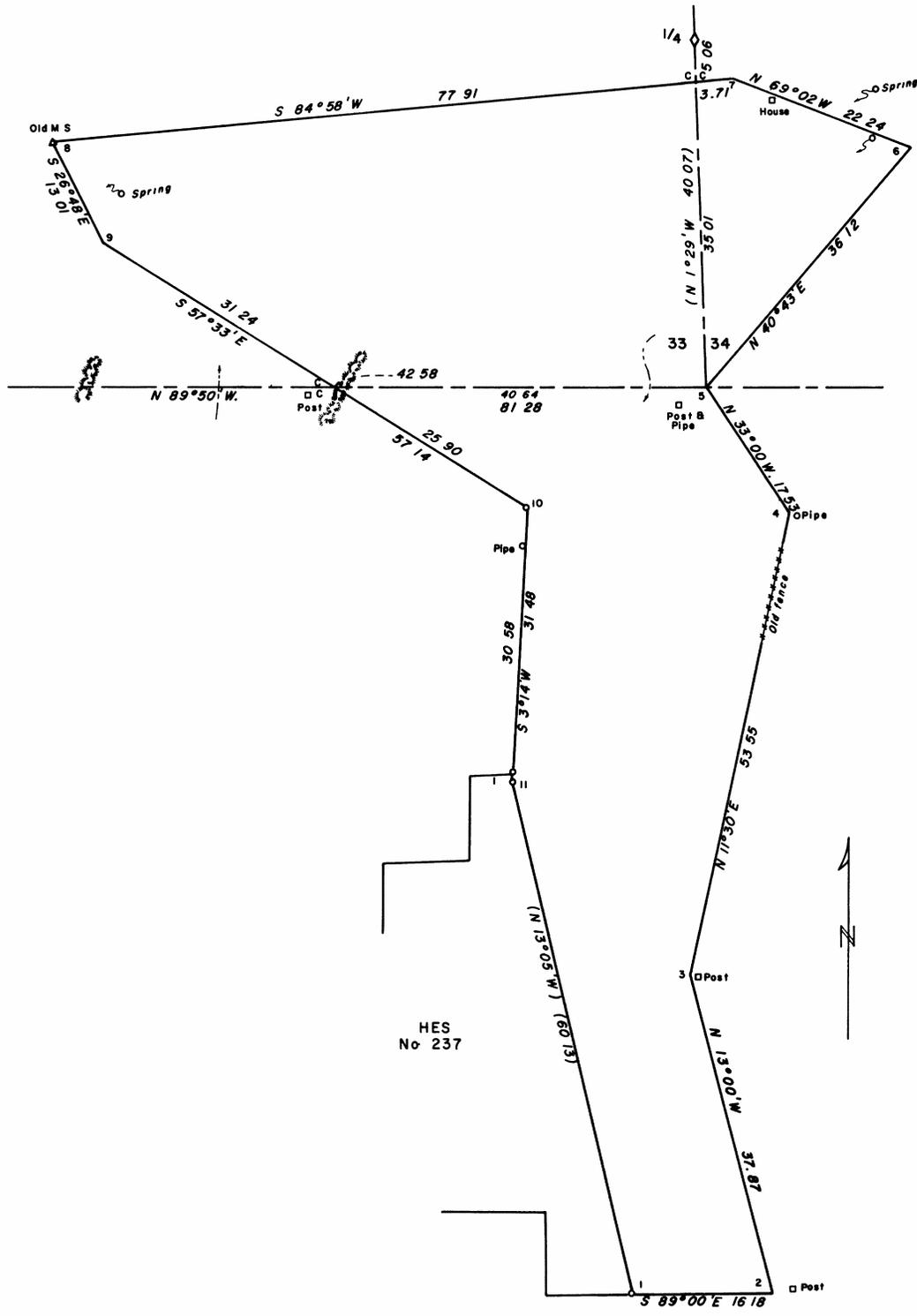


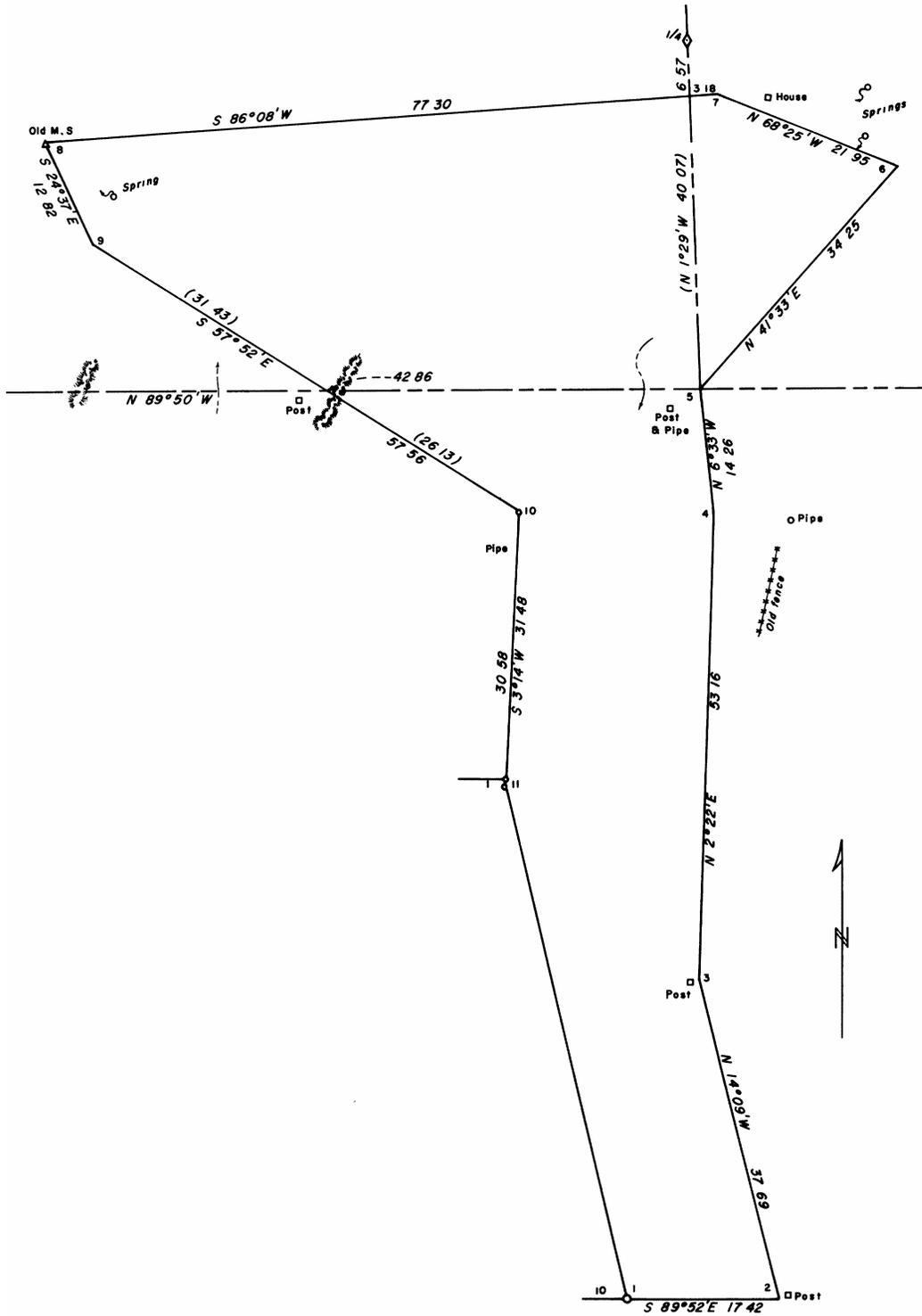
Figure 8 - Grant Boundary Adjustment

A grant boundary adjustment (section 5-44, Manual of Surveying Instructions, 1973) was calculated, using the same control points with the resulting relationships shown in figure 8.



**Figure 9 - Grant Boundary Adjustment
Accepting Mound of Stone at Corner No. 8**

A grant boundary adjustment was also calculated, accepting the old mound of stone at corner No.8 and the fixed position of corners No. 1, 5 and 10. The resulting relationships are illustrated by figure 9.



**Figure 10 - Broken Boundary Adjustment
Accepting Corner No. 8**

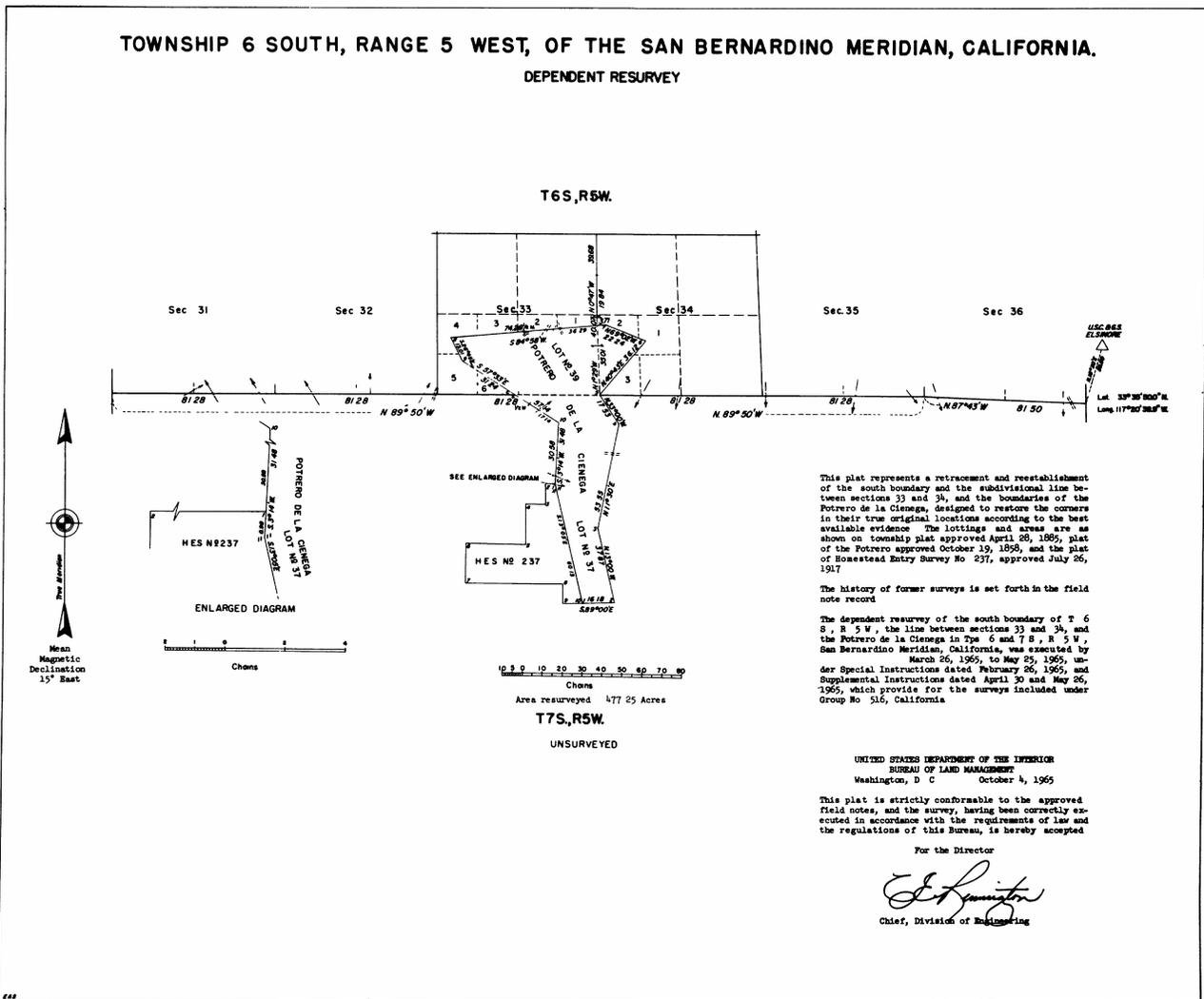
Lastly, a broken boundary adjustment was made, also accepting the same mound of stone at corner No.8 and holding the fixed position of corners 1, 5 and 10. These relationships are illustrated by figure 10.

After some study the grant boundary adjustment procedure illustrated in figure 9 was adopted for the following reasons:

1. It holds the shape of the original surveys more closely than any other method.
2. It includes the spring near corner No.6 inside the Potrero Grant and Hays most probably ran his courses 5-6 and 6-7 up the valley for the purpose of including the spring.
3. The line 3-4 follows along the old and fallen fence which crosses a small arm of the valley.
4. The method maintains a better ratio of original record to resurvey between the closing corner, corner No.7 and the $\frac{1}{4}$ section corner of sections 33 and 34.
5. It is the one method applicable to all conditions throughout, without arbitrarily resorting to a mixture of methods to restore the same surveyor's work.
6. Section 5-44 of the Manual of Surveying Instructions, 1973, specifically states that the grant boundary adjustment is used on land grants surveyed prior to the rectangular surveys.
7. The Potrero Grant survey contains 488 acres, 10.74 acres more than returned by Hays, only a 2% difference.

The resurvey was executed on the basis of the grant boundary method illustrated by figure 9. The plat and field notes were accepted on October 4, 1965.

TOWNSHIP 6 SOUTH, RANGE 5 WEST, OF THE SAN BERNARDINO MERIDIAN, CALIFORNIA.
DEPENDENT RESURVEY



This plat represents a retracement and reestablishment of the south boundary and the subdivision line between sections 33 and 34, and the boundaries of the Potrero de la Cienega, designed to restore the corners to their true original locations according to the best available evidence. The lottings and areas are as shown on township plat approved April 28, 1965, plat of the Potrero approved October 19, 1956, and the plat of Homestead Entry Survey No. 237, approved July 26, 1917.

The history of former surveys is set forth in the field note record.

The dependent resurvey of the south boundary of T 6 S , R 5 W , the line between sections 33 and 34, and the Potrero de la Cienega in T 6 S and T 8 S , R 5 W , San Bernardino Meridian, California, was executed by March 26, 1965, to May 25, 1965, under Special Instructions dated February 26, 1965, and Supplemental Instructions dated April 30 and May 26, 1965, which provide for the surveys included under Group No. 516, California.

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
Washington, D C October 4, 1965

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
E. J. [Signature]
Chief, Division of Engineering

Figure 11 - Accepted Plat