

SAN BERNARDINO BASE AND MERIDIAN

Report as to Origin.

The initial point of the San Bernardino Base and Meridian was set by Henry Washington on the top of the San Bernardino Mountain on December 7, 1852 in accordance with instructions. A copy of his report to the Surveyor General is herewith attached, also a copy of the sketch of the monument. (Vol. 464:8)

Washington ran the base line westerly from the initial monument in 1853. The public Survey Office at Glendale has⁵ none of Washington's notes along the base line in Ranges 1 and 2 West but he ran the base line through Ranges 3, 4, 5, 6, 7, 8 and 9 West setting section corners every 80 chains and 1/4 corners at 40 chains. He undoubtedly triangulated through Ranges 1 and 2 West.

Washington also ran the San Bernardino Meridian through Townships 4, 5, 6, 7 and 8 North.

A. G. Paxton in 1876 subdivided a portion of T. 1 N., R. 1 W.

Deputy Rice in 1892 (Vol. 128:2) ran the Meridian line south between R. 1 E. and 1 W., in T. 1 N. "At 83.53 chains I arrive at a point 13.45 chains E. of old temporary monument established by Deputy Washington in 1852 which is an unmarked post 8 inches square standing 4 1/2 feet high above a mound of rock 4 feet high and 5 feet square. I find an iron bar 5 feet long and tin dishes used by Deputy Washington (so an old settler informs me) for targets.

From this monument I take bearing to corner of Townships 1 North and 1 South, Range 3 and Range 4 West 'in center of road' and find said corner bears S. 89° 20' W., the above mentioned road is one of the principal avenues in San Bernardino Valley and is almost co-incident with base line as run by Deputy Washington and can be plainly seen from this point extending westerly from above mentioned Township for corner about 15 miles.

"From this temporary monument set by Washington I run East 13.45 chains to intersection of the meridian line at which point I set tamarack post 7 inches square, 9 feet long in mound of granite rock 5 feet high, 6 feet square. The post and the above mentioned mound of rock which I have built around it stand on projecting point of granite ledge 8 feet square and 4 feet above ground. I mark post

S. B. J. P. T. 1 N. R. 1 E. S 3 7 on N. E.

S. B. J. P. T. 1 S. R. 1 E. S. 6 on S. E.

S. B. J. P. T. 1 S. R. 1 W. S 1 on S. W. and

S. B. J. P. T. 1 N. R. 1 W. S 36 on N. W.

xxx At 11h 57m A.M. I observe culmination of sun and the resulting lat. is 34° 05' N.

Rice then ran the base line West from the initial point through the temporary monument set by Washington.

"13.45 Temporary monument set by Deputy Washington".

(Triangulating through Sec. 34)

"94.16 To corner of T. 1 N. and 1 S. and R. 1 and 2 W."

Geo. W. Pearson in 1907 (Vol. 424:1) in re-running the boundaries of T. 1 S., R. 1 W., finding the

"1/4 corner between Secs. 13 | 18 which is a granite stone 12x12x6 inches above ground" ran

"North and intersect San Bernardino Base Line 4.20 chains west of initial monument which is a post 7 inches square, 4 feet above mound of stone, 5 ft. base, 4 ft. high for closing corner of T.1 S., R. 1 E. and 1 W., marked C.C., 6 grooves on E. and W. faces."

Pearson then reran the base line through R.1 E. "due to misclosure of T.1 S., R. 1 E., and finding the corner of Sec. 31 | 32, T. 1 N., R. 1 E., ran from there "S. 87° 1/2 W. on S. boundary of S. 31 to initial point".

Frank W. Chapin in 1917 (Vol. 456:11) in "Resurvey of San Bernardino Base Line

"From the initial point of the San Bernardino Base and Meridian West on random line on S. bdy. of Secs. 36, 35, 34, T.1 N., R. 1 W.

4.44 Intersect the closing corner of Township 1 South, Range 1 East, Range 1 West.

244.95 Falls 3.79 chains north of point for corner Secs. 33 and 34, which I determine from original bearing tree".

"Thence N. 89° 07' E. on true line to initial point"

(setting brass caps at 1/4 corners and section corners at 81.67 chains each)

81.67 "The initial point of the San Bernardino Base and Meridian which is a tamarack post 6 inches square, 3 feet above a mound of stone 10 x 8 x 6 feet marked and witnessed as described by the Surveyor General.

"Alongside of old stone, set an iron pipe 3 feet long, 3 inches diameter in old stone mound for initial point with brass cap marked

I P	
T 1 N	
R 1 W	R 1 E
S 36	S 31
19 17	

This monument is the present designation of the initial point; and for the closing corner for T. 1 S., R. 1 E. and R. 1 W., a brass capped pipe 4.44 chains west marked

C C	
Sec 1	Sec 6
R 1 W	R 1 E
T 1 S	

designated the meridian southerly.

The initial point is 13.45 chains east of old monument as set by Washington in 1852 in accompanying report.

The longitude of the initial point is

116° 56' 15" W.

The latitude of the initial point is

34° 07' 10" N.


A. O. Johnson

SAN BERNARDINO MERIDIAN.

Vol. 464:8

Near Mormon Camp
Los Angeles, Calif.
December, 1852.

Sir:

As instructed by you I proceed to this place as early as practicable with a view of establishing a monument on the top of San Bernardino Mountain.

I arrive here on 30 of October and with all my exertion I could not start for the mountain until the 4th ult.

On the 7th I reached the top of the San Bernardino Mt. with 11 men (Mr. Gray, Dep. Sur. accompanying me making, including myself and those employed 13 men.) The men being much fatigued did not perform much service until the next day. The travel over mountain spurs being very laborious.

I found the most eligible point for the monument on the 7th and after much loss of time in obtaining a suitable stick of timber for the monument I proceeded to erect the same. The spot on which the monument stands being about 50 lbs. NELY of a natural mound of rocks (A permanent and conspicuous point from the valley below) near three pine trees upwards of 10, 12 and 14 inches in diameter forming nearly an equilateral triangle about 8 feet apart. The monument being buried in earth about 2 feet and compactly rammed with rock and dirt, forming an enclosure closely pressed by poles extending from tree to tree 5 feet in height, filled in with dirt and stone with an outward wall of stone more than 3 1/2 feet at base and 3 feet at top of wall, to brace the monument on every side, should either of the trees be torn by storm or decay.

The trees mentioned are hard white pine, such as I never saw, being quite as heavy and as tough as hickory.

They were firmly rooted in the ground and tapering off from the ground to the top, being about 20 feet high.

The monument formed of 2 pieces of timber spliced and braced by 3 iron bands, 25 feet 9 inches long extending from surface of earth 23 feet 9 inches hewed from the surface 8 x 10 inches on 4 sides to the distance of 13 feet and remainder tapering off to top 4 inches in diameter.

The timber selected was clean of knots and will doubtless last many years.

Before leaving the ground the tins attached to the cross bars have fallen down, with the exception of one and there being no swivels at hand it was found impossible to fasten them in such a way as to stand the heavy blows.

I therefore had them securely fastened to the monument.

From the top of the stone wall above described - there was a strong chain tightly drawn from each tree at an angle of about 45° to the staff or monument, being marked

T	1	N	R	1	E	S	31
T	1	S	R	1	E	S	6
T	1	N	R	1	W	S	36
T	1	S	R	1	W	S	1

whence bears

Pine N. 5° 15' E. 164 lks. T. 1 N., R. 1 E., S 31-32" Diam. B. T.
 Pine S. 63° 30' E. 59 lks. T. 1 S., R. 1 E., S 6-20" Diam. B. T.
 Pine N. 23° 00' W. 90 lks. T. 1 N., R. 1 W., S 36-32" diam. B. T.
 Pine S. 70° 00' W. 206 lks. T. 1 S., R. 1 W., S. 1-23" diam. B. T.

From the monument bears the following conspicuous objects as taken by theodolite.

- 1 - N.71° 05' E. - To the top of a peak about 40 obs. distant on San Bernardino Ridge. Elevation 7° 30', approximate height of the peak above monument 275 feet, covered with hard pine trees of stout size but low.
- 2 - S.84° 25' E. - To live oak about 1 mile N. of Bald Mountain.
- 3 - S.76° 55' E. - Bald Mountain about 5 1/2 miles distant. Elevation 1° 54'. Approximate height above monument 500 feet.
- 4 - S.34° 55' E. - To a peak of ridge about 4 1/2 miles distant. Elevation 15 feet.
- 5 - S.10° 05' W. - To terminus west of low ridge lying south of Hill Creek Canyon. Course of center of sun or distant horizon at sunset 71° 10' W.
- 7 - S.50° 50' W. - To highest of 2 mountain peaks, approximate distance 25 miles.
- 8 - N.71° 55' W. - To highest point of Cajon Pass, approximate distance 30 miles.
- 9 - S.75° 35' W. - To old Mission Bldg., approximate distance 20 miles.
- 10 - S.87° 05' W. - To Mormon Fort, approximate distance 3 1/2 miles -
The course of sunrise on a distant horizon S.69° 10' E.

The variation of the needle was ascertained with as much care as practicable, but the night and position of the ground were not altogether as favorable as I desire. By this observation on the night of Nov. 7th, the variation was found to be 13° 35' East, whilst with all necessary facilities S. 58° W. about 9 miles from the monument the variation was found to be 13° 40' East.

Believing that the necessary fixtures for the support of the time were all complete as furnished at your office, I did not perceive the want of essential swivels, till the monument was erected in a strong wind to test their necessity.

In departing from your instructions in relation to the precise mode of erecting monument I acted from the conviction that the mode adopted was the best and I am satisfied that it did not occur to you when the instructions were issued that the advantage of trees as stays to the monument were the best support.

Believing as I do that you were not aware that trees were to be found on the top of San Bernardino Mountain.

It would have required 1 or 2 days longer to have dug down on a bed of rock and planted the monument and posts as instructed and on account of rock their efficiency might have questioned.

The mountain range from the monument slopes off in every direction, but after going 2 or 3 chains to the S., W., and N., the descent is very steep - the place of the monument being much higher than any point to the (except the natural mound previously mentioned about 50 lks. from the monument) S.W. being its general bearing for about 15 chains where from a gradual slope, the mountain becomes very steep. whilst the general bearing of the mountain range to the eastward is N. 71° 05' E. about 40 chains heavily timbered with hard white pine.

Had the monument been fixed on any other eligible point to the eastward, on the San Bernardino Range and more especially on the highest peak upon top of the mountain, it would have required an additional expenditure of several thousand dollars, in cutting down heavy timber, - whilst the reflection of shade from the remaining trees

would have obscured the distant view. In addition to this view of the case, had such work been undertaken, it could not have been completed on account of the near approach of snow, till the ensuing summer and thus have delayed the surveying operations nearly one year.

The amount of my account for expenses incurred in erecting the monument being \$511 was forwarded to you on the 5th inst., but altho' this account closes the transaction, with the Government, it is nevertheless proper to state that it does not cover all the necessary expenses incurred in the prosecution of this work, but from the charge of economy, so rigidly enjoined by you, and the opinion expressed by you that Four Hundred Dollars was enough to cover all necessary expenses, accounts for my not having rendered a full amount of all of my necessary expenditures upon this work, believing as I do, that the account for the above reasons, would not be allowed, or, if allowed, greatly delayed to the prejudice of the public service.

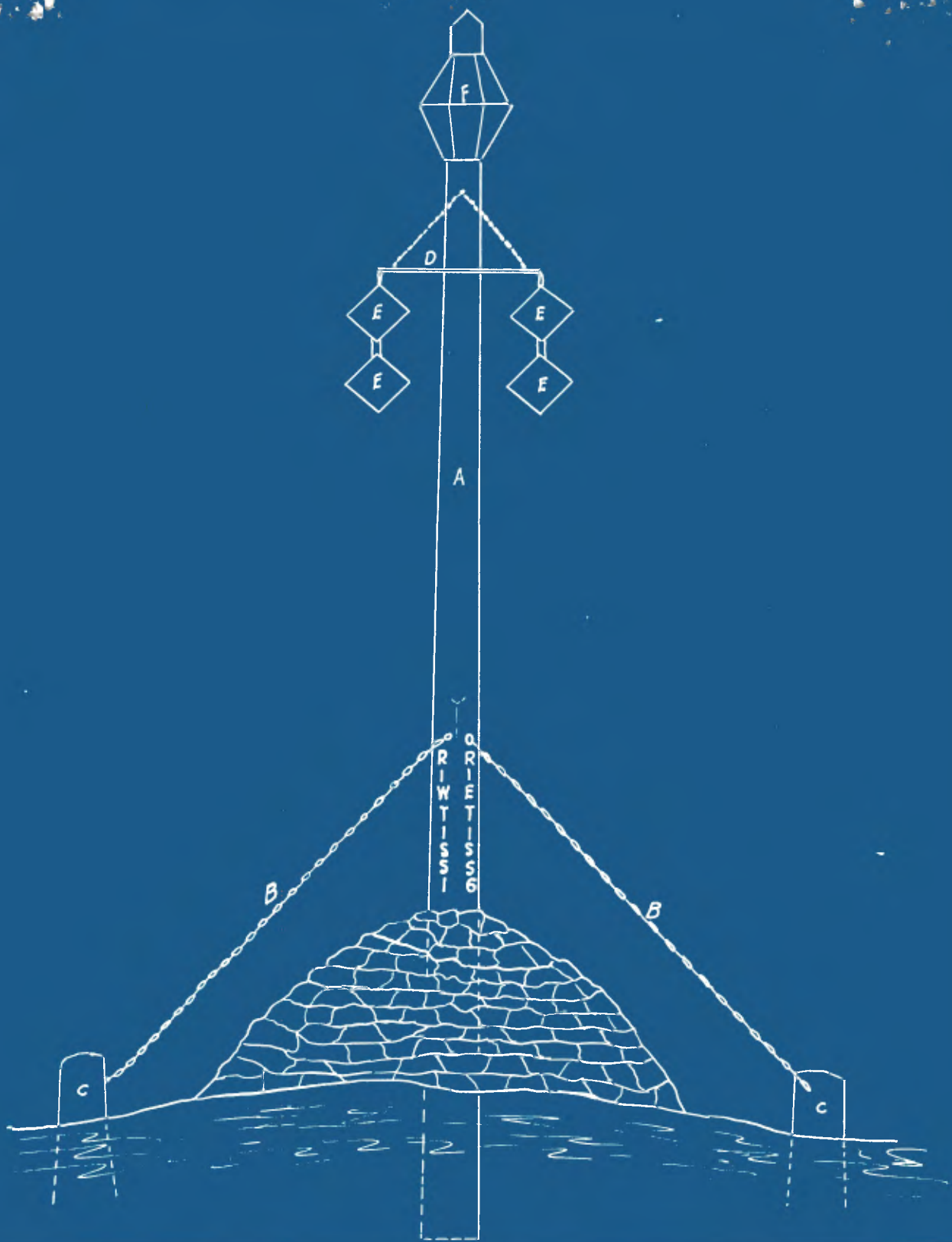
The estimated height of the San Bernardino Mountain above the San Bernardino Valley to the west is various, from 7 to 9000 feet, and taking the mean makes it 5000 feet, which I think a very near approximation, and would make it more than 10,000 feet above the level of the Pacific Ocean.

The San Bernardino Mountain about the monument was considered too rugged to attempt the survey of the Base and Meridian lines from that point, satisfied that the line could not have been measured with the requisite degree of accuracy.

I am, with great respect
Your Obedient Servant,

Henry Washington,
Deputy Surveyor.

Sam'l D. King, Esq.
U.S. Surveyor General of Cal.,
San Francisco, California.



A-The monument pole 25' high from the ground planted therein four feet and surrounded by a stone or earth mound four feet high and eleven feet in diameter.

BB-Two of the stay chains connecting the monument post with the stay posts C.C.

D-One of the two iron cross bars 4 feet long each of which are suspended diagonally by small chains, the two sheets of tin of one foot square (EE) as additional reflectors.

F-One hexagonal tin reflector 2 1/2 feet high and 2 feet across the center suspended by a small chain on each side to near the top of the pole.

Scale 1 1/4 inch to 1 foot.



UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
WASHINGTON, D.C. 20240

IN REPLY REFER TO:

9180.1 (713a)

October 13, 1966

Mr. M. A. Nicholas
County Engineer and Road Commissioner
825 E. Third Street
San Bernardino, California

Dear Mr. Nicholas:

Please excuse the delay in this reply to your letter of September 13 requesting historical information about the initial point of the San Bernardino Meridian and Base Line. Much of the following had to be obtained from various archives.

The earliest mention we have yet found of this initial point is in the Commissioner's Report for 1851, dated November 26, 1851. Commissioner Butterfield stated: "To regulate the surveys of the lands drained by the Colorado and those on the southern coast of the State, another base line and meridian have been proposed by the surveyor general, with their intersection at Los Angeles, and this has been approved by the department." We shall continue a search for the surveyor general's report and any instructions from him to Henry Washington.

The initial point was established by Henry Washington on November 7 and November 8, 1852. His description of the establishment is given in the enclosed report on the initial point prepared by John L. Warboys, in 1944. We have not found the original report which shows the drawing of the monument referred to by Warboys. It may be that our Sacramento Office has a copy which includes the drawing. Enclosed is a copy of Washington's field notes describing how he initiated his surveys from the point. The notes indicate that Washington did not proceed directly from the monument. He commenced at a point from which it was observed to bear N. 45° E., then traversed to another point due west of the monument. By computation he determined he was then 13 miles 9.80 chains due west. His surveys branched off from this latter point.

The next surveyor in the vicinity was Albert G. Ruxton, under a contract dated November 13, 1876. Ruxton ran south from a Washington corner six miles north of the initial point to the corner of sections 19, 24, 25, and 30, on the west boundary of T. 1 N., R. 1 E. He proceeded no farther because of the rough terrain.

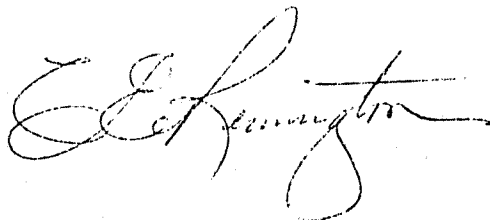
Excerpts from the field notes of surveys by John C. Rice, George Pearson, and Frank W. Chapin pertinent to the initial point are included in the report by Warboys. The contracts let to Ruxton and Rice merely show the townships each was to survey. Presumably the methods to be employed were as described in the current surveying manual. The special instructions for Group 41, under which Chapin worked, consist of 40 pages applying to 13 townships. Very little history of previous surveys is given. The only part of the instructions pertinent to your research is the following statement, under Exterior of T. 1 S., R. 1 W.:

"Retrace the E. bdy. of the township and the S. bdy. of T. 1 N., R. 1 W. and renew or reestablish cors. where necessary."

In summary, Henry Washington established a monument on November 7 and 8, 1852, which he termed the initial point of the San Bernardino Meridian and Base Line, but was not able to extend those lines directly from it. From a historical standpoint this is the initial point. Thereafter he determined a point 13 miles 9.80 chains west of his initial point which served as a starting point of his further surveys. Between September 9 and September 13, 1894, John C. Rice surveyed south, between Tps. 1 N., Rs. 1 E. and 1 W., to a point 13.45 chains east of Washington's monument. Rice referred to this monument as "old temporary monument established by Deputy Washington in 1852," and established what he termed the initial point 13.45 chains to the east. This is the governing initial point for surveys in the immediate vicinity, superseding Washington's monument for that purpose. Between September 9 and September 12, 1907, George W. Pearson established a closing corner of Tps. 1 S., Rs. 1 E. and 1 W., at a point 4.20 chains west of Rice's monument. In 1917, Chapin reported slight differences from the record in the relative positions of the three points. He noted a "large mound of stone, (probably Deputy Washington's monument)" in passing but did not rehabilitate it because it had no significance in relation to the governing lines. It is ironic that the monument, erected by Washington with so much labor and care, is now only a tumbled mound of stone situated neither on the base line nor the meridian.

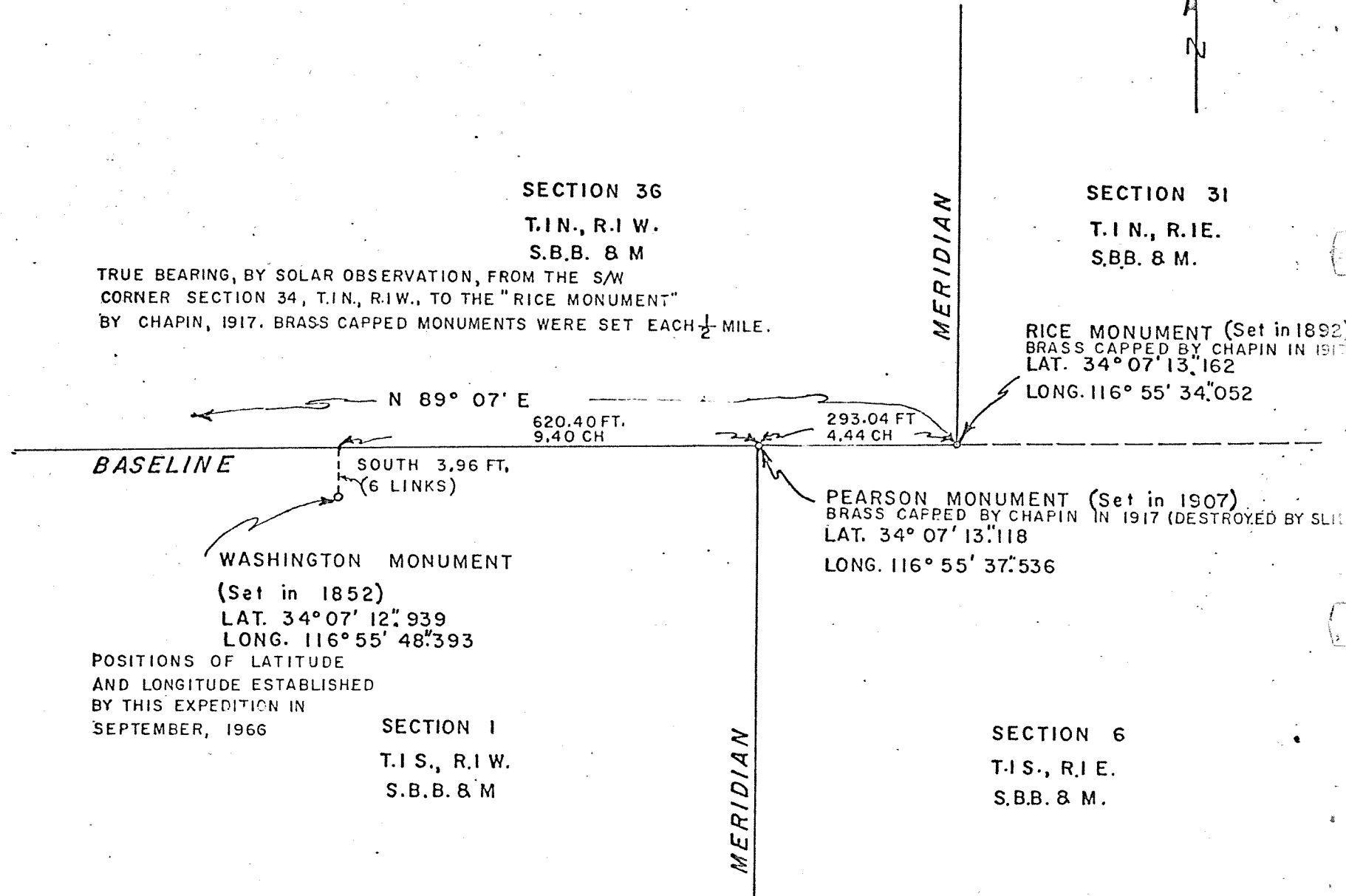
We enclose a map showing the principal meridians and base lines governing the public land surveys. A new two-piece wall map of the United States, scale 1:2,500,000 is now available from the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C., 20402, at a cost of \$3.00. This map shows the townships governed by each meridian.

Any additional material we may find will be sent to you.



Enclosures 3

THE WASHINGTON MONUMENT RESURVEY EXPEDITION
 INITIAL POINTS AS DETERMINED BY :
 FRANK W. CHAPIN, U.S. CADASTRAL ENGINEER IN 1917



**Report on San Bernardino County Surveyors
Initial Point Expedition - July 14 & 15, 1967**

**By Eugene P. Eke - ACSM, Southern Calif. Section
Committeeman at large for
San Bernardino County**

As a follow up to the Washington Monument Resurvey Expedition (described in the June 1967 quarterly) a group of employees of the San Bernardino County Surveyor's office made a trip to the Initial point for the San Bernardino Base and Meridian. The main objective of the trip was to recover the Granite stone set by Deputy Government Surveyor Pearson in 1907, as the closing corner on the Baseline, for the San Bernardino Meridian going south.

This corner was found to be 292.88 feet West of the Initial point set by Deputy Government Surveyor Rice in 1892, for the San Bernardino Baseline and the Meridian going north.

The Pearson monument was found in a slide area about 200 feet South of the top of the ridge on Mt. San Bernardino at an elevation of over 10,000 feet above Sea Level. It's position was checked by two bearing trees described in

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APR 18 1973

L. A. COUNTY ENGINEER
SURVEY DIVISION

the 1907 government field notes and a brass disk was set in the top of the stone. Brass disks were also set as reference points in rock outcrops. (See Sketch)

To my knowledge this is the first time this monument has been recovered since 1917 when U.S. Cadastral Engineer Frank W. Chapin resurveyed the baseline. A copy of the expedition's field notes have been sent to the Sacramento office of the Bureau of Land Management. It is the hope of the members of the expedition that these notes will help to perpetuate the location of this monument.

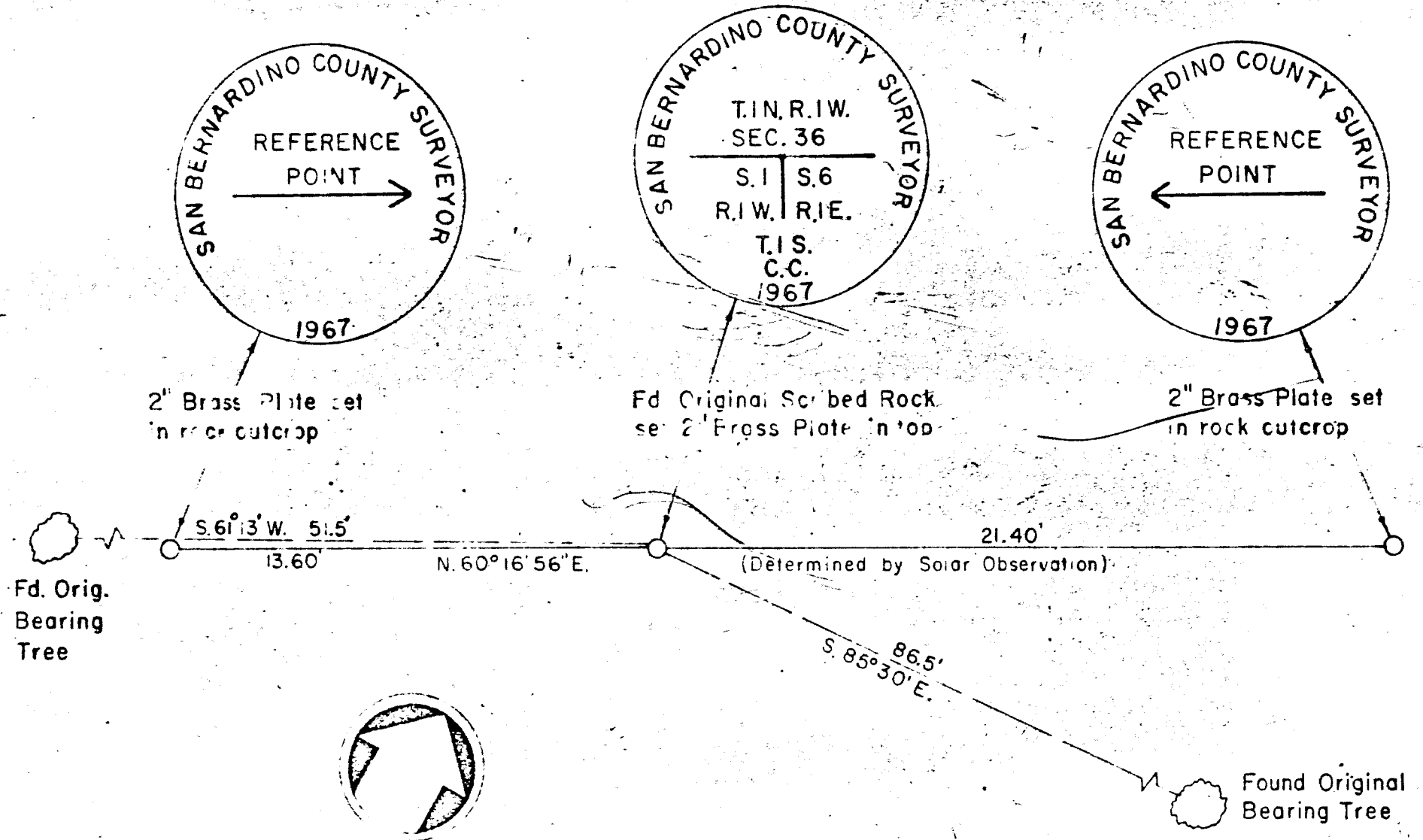
Members of the expedition are as follows:

Eugene P. Khe - Chairman
Leslie D. Crawford
Dan Huff
Jerry Luton
Ralph C. Monge
Neal A. Niese
Donald L. Philpott
Carson L. Storer
Jerry Whitsell
Bill Laurie - Trail Advisor

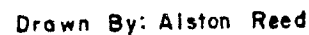
RECOVERY OF 1907 MONUMENT SET BY DEPUTY SURVEYOR PEARSON

July 1967

San Bernardino County Surveyors Office



2





UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

STATE OFFICE
U.S. Courthouse & Federal Bldg., - Room 4017
650 Capitol Mall
Sacramento, California
95814

IN REPLY REFER TO:

9180
(04940-C.05a)

August 14, 1968

Mr. J. W. Abbey
County Surveyor
San Bernardino County
316 Mount View Avenue
San Bernardino, California 92410

Dear Mr. Abbey:

Enclosed is a diagram showing the San Bernardino Meridian Initial Point as set by H. Washington and his method of projecting the surveys from that point. Also showing the sequence of connecting lines which resulted in the establishment of the other two monuments.

This diagram is for information only, which I thought might be of interest to you.

Sincerely yours,

George W. Johnson

George W. Johnson
Chief, Branch of Cadastral Surveys

Enclosure:



*Call For Photo of Initial Point
Sept. 3, 1968 Bill Young will send.*

B.G.

File w/Initial Pt. Retracement

September 26, 1968

C Mr. George W. Johnson, Chief
Branch of Cadastral Surveys
United States Department of the Interior
Bureau of Land Management
U.S. Courthouse & Federal Building, Room 4017
650 Capitol Mall
Sacramento, California 95814

Dear Mr. Johnson:

O Thank you for your letter of August 14, 1968 and enclosed dia-
gram. However, in examination of the diagram we find the rela-
tionship between the initial monument and the closing corner to
Township 1 South, Ranges 1 East and 1 West to be in error. When
George Pearson closed upon the baseline in 1907 he called a dis-
tance of 4.20 chains West of the initial monument, however, the
P monument that Pearson actually tied into was the corner establish-
ed by J. C. Rice in 1894 marking the corner between Ranges 1 East
and 1 West, Township 1 North.

Y Enclosed you will find a copy of photograph taken of the Initial
Point area. The enclosed photo shows the location of the three
corners and as additional verification in 1967 we actually found
the bearing ties called for in the original sets of notes for each
of the monuments as designated on the photo. I hope this will be
informative and useful to your office.

Very truly yours

J. W. ABBEY
County Surveyor

JWA/cid
Encl.

