

FUNDAMENTALS OF PROPERTY RIGHTS AND BOUNDARIES

Introduction

The special boundary problems includes what is commonly referred to as "hiatuses," "overlaps," "Junior-Senior" corners, "Junior-Senior" surveys and state boundaries.

There is no anticipation in the system of rectangular surveys that a hiatus or overlap would (or could) occur; the various manuals of surveying instructions do not mention them at all. In strictly legal contemplation they do not and cannot exist because all the land must have an ownership, there is no such thing as "no-man's land." Conversely, it is not possible for two different persons to hold a clear fee title to the same tract of land. Hiatuses and overlaps are therefore as much legal problems as they are problems for the surveyor. Every land surveyor has been confronted by small hiatuses or overlaps (junior-senior conflicts in title descriptions) and may at some time be confronted with a larger discrepancy which is then termed either a hiatus or an overlap. He must make a surveying decision and follow some course of action or he must make a recommendation for a surveying solution to the problem. Since hiatuses and overlaps are property ownership problems, the final decision is vested in higher governmental authority or in a court of competent jurisdiction. There is no statutory law pertaining to these problems, except that no survey or resurvey may be executed in a manner that will adversely affect vested rights of the land owners. The surveyor can and must develop the facts, relationships and evidence; and make his decisions based on sound knowledge of the precedents of case law.

Hiatus

Hiatus is a latin word meaning "to gape," such as to yawn. As used in surveying it is a gap or open space where none was supposed to exist. A hiatus may occur where the first surveyor in an area surveyed and monumented a tract of land and a later surveyor surveyed an adjoining tract with the intent of having a common boundary with the first, but in fact monumented another line some distance away (not in conflict) and, after title has passed, it is discovered that there are in fact two separately monumented lines. The space, or gap between the two lines is called a hiatus.

In the public land states, all of the land was public domain belonging to the United States. In the plan of the rectangular system of surveys the townships and sections were surveyed as boundary lines. Thus: the east boundary of one township was to be also the west boundary of the township adjoining it to the east; the north boundary of one section was to be the south boundary of the section north of it, and so on. It was soon discovered that land surveying was not an exact science. What could be done in theory could not be transferred exactly to the land surface. Because of poor instrumentation, rough terrain and human frailties, errors occurred in placing the survey monuments on the ground. If a settler bought land from the government, he relied upon the survey monuments for making his improvements. If an error was discovered and the monuments were "corrected" or moved, he would have title to a tract of land but would never know for sure where the boundaries of that tract were located on the ground. The Act of Congress dated February 11, 1805, 2 Stat. 313, 43 U.S.C. 752, fixed the corners and monuments established as the true

corners of the sections and subdivisions thereof, regardless of whether they were in the "correct" place or not.

The government has the right to make and correct surveys of its public lands, but once a private right has been acquired, based on an official survey, the corners are unchangeable even though a better job might have been done. In the case of Haydel v. Dufresne, (1855) 58 U.S. 23, the Supreme Court said, "This construction of the law is altogether necessary, as great confusion and litigation would ensue if the judicial tribunals, state and federal, were permitted to interfere and overthrow the public surveys on no other grounds than an opinion that they could have the work in the field better done-----than the Department of Public Lands could do." In the now famous case of Cragin v. Powell, (1888), 128 U.S. 691, it was said, "That the power to make and correct surveys of the public lands belongs to the political department of the government, and that, whilst the lands are subject to the supervision of the General Land Office, the decisions of that bureau in all such cases,-----are unassailable by the courts, except by a direct proceeding,-----." It was also stated, "It is a well settled principle that when lands are granted according to an official plat of the survey of such lands, the plat itself, with all its notes, lines, descriptions and landmarks, becomes as much a part of the grant or deed by which they are conveyed, and controls so far as limits are concerned, as if such descriptive features were written out upon the face of the deed or grant itself." (emphasis added). See also Lindsey v. Hawes, (1863), 67 U.S. 554.

It is now a well settled principle of law that the monuments established by a government surveyor, along with the plat and field notes absolutely control the boundaries of lands patented on the basis of those monuments, plat and notes.

Two comparatively recent judicial decisions dealt specifically with the question of ownership of hiatus lands and are as clear as to interpretation. One was United States v. Weyerhaeuser Company and the other was United States v. Macmillan.

United States v. Weyerhaeuser Company, 392 F. 2d 448 (1967) Certiorari denied 393 U.S. 836.

This case dealt with a hiatus between Tps. 27 and 28 S., R. 8 W., Willamette Meridian, Oregon. Briefly, the facts are: The Sixth Standard Parallel South was surveyed by Dennis Hathorn in 1855, through ranges 8, 9 and 10 west. Hathorn set his standard corners to refer to T. 28 S., R. 8 W., and subdivided that township with the standard corners referring to sections 1 through 6. The line was reported as being surveyed due west. The plat and field notes were approved July 7, 1856.

In 1896 William Heydon received a contract to survey T. 27 S., R. 8 W. Heydon's instructions were to retrace the Standard Parallel through range 8 west and establish corners for sections 31 through 36, T. 27 S., and subdivide that township. Heydon reported finding the Hathorn standard corners of sections 1 and 2, 2 and 3, but did not find Hathorn's corners along the north boundaries of sections 3 and 4. He reported finding the standard 1/4 corner of section 5 and the standard corner of sections 5 and 6, and the

standard corners west of there. Heydon set his corners for T. 27 S., at 40 and 80 chain intervals varying distances west of Hathorn's standard corners. Heydon subdivided T. 27 S., R. 8 W. and his survey was approved September 10, 1897.

Beginning in 1876 patents were issued for sections 3, 4 and 5, T. 28 S., R. 8 W. Patenting of sections 31 through 36, T. 27 S., R. 8 W. began in 1899.

In 1961 it was discovered that the lines marked by the Hathorn and Heydon monuments along the Sixth Standard Parallel, and north boundary of sections 3, 4 and 5, T. 28 S., R. 8 W., did not coincide. All of the 1896 Heydon monuments for sections 32, 33 and 34 were found, and all of the 1855 Hathorn standard corners for sections 3, 4 and 5, except the standard 1/4 corner of section 3. The Hathorn line deviated southerly from a true west line, whereas the Heydon line deviated northerly, leaving a gap or hiatus between the two lines as evidenced and proven by the original monuments. The Bureau of Land Management resurveyed the two lines and

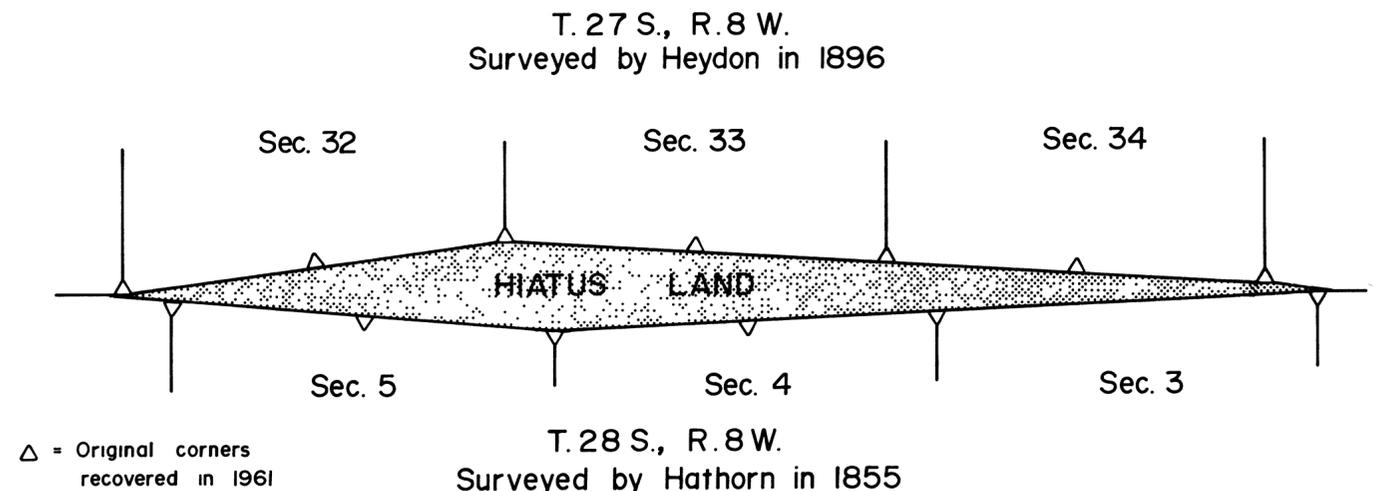
surveyed the hiatus, designating it as sections 32, 33 and 34, T. 27 1/2 S., R. 8 W. The plat was approved on February 6, 1962. This "half" township varies from zero to a maximum of 4.65 chains in latitudinal width over the 3 miles from the Hathorn standard corner of sections 2 and 3 to the Heydon corner of sections 31 and 32, and contains 45.95 acres. See the accompanying sketch.

The Weyerhaeuser Company was the successor in title to sections 32, 33 and 34, T. 27 S., R. 8 W. Weyerhaeuser filed suit in U.S. District Court for recovery of damages for the timber cut in the right-of-way of a BLM road and to clear title to the hiatus. They argued that Heydon was supposed to have retraced the Hathorn line, and should have done so. Further, that the plat on which their title was based showed the south boundary of T. 27 S., R. 8 W., was the Sixth Standard Parallel South. Since Hathorn had already surveyed the Standard Parallel, Heydon could not survey another one, creating two standard parallels. The government argued that the monuments on the ground marked the boundary of lands

conveyed, that the hiatus was public land and that the government could survey and dispose of it as it saw fit.

The United States District court ruled in favor of Weyerhaeuser and the government appealed to the U.S. Court of Appeals, 9th Circuit. The Circuit Court reversed the District Court, ruling that the limit of Weyerhaeuser's title was the Heydon line as marked by his monuments. As to the argument that there could be only one Sixth Standard Parallel the Circuit Court said, "----we think that it cannot be said that there is but one sixth parallel until we have a combination of the ideal surveyor, using ideal instruments in an ideal terrain. Until that combination is available, land titles will be dependent upon the deficiencies and uncertainties which afflict the world as it is."

A writ of certiorari was denied by the Supreme Court, October 14, 1968, 393 U.S. 836. The 9th Circuit Court decision thus carries the same judicial weight as though it were rendered by the Supreme Court of the United States.



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United States v. Macmillan, 331 F. Supp. 435 (1971)

This case dealt with a hiatus between Tps. 32 and 33 N., R. 49 E., Mt. Diablo Meridian, Nevada. Though somewhat more complex and created by different circumstances than in the Weyerhaeuser case, the decision by the U.S. District Court for the District of Nevada follows the Weyerhaeuser decision. Briefly the facts are:

In 1869 A.J. Hatch surveyed the exterior boundaries and subdivisional lines of T. 33 N., R. 48 E., establishing the southeast and northeast corners of that township. In 1871 Hatch surveyed the west and south boundaries, west two miles of the north boundary, and surveyed the subdivisional lines of the west two ranges of sections in T. 32 N., R. 49 E. In 1872 Hatch surveyed the south and east boundaries and subdivisional lines of T. 34 N., R. 49 E. In 1874 Hatch surveyed the remaining east four miles of the north boundary, the east boundary and additional subdivisional lines in T. 32 N., R. 49 E., including the line between sections 1 and 2, but not the remaining lines of sections 2, 3 and 4. In the same year (1874) Hatch surveyed the westerly part of the north and south boundaries and west range of sections in T. 33 N., R. 50 E. The plats were all approved, those for T. 33 N., R. 50 E. and T. 32 N., R. 49 E. on October 14, 1874.

Therefore at that time (1874) Hatch had surveyed what was intended to be (under the rectangular system) the four exterior boundaries of T. 33 N., R. 49 E., and most of the subdivisional lines adjoining.

In 1893 H.B. Maxson received a contract to subdivide T. 33 N., R. 49 E. Maxson's field notes indicate that he retraced the Hatch east boundary of T. 33 N., R. 48 E., and did not find the southeast corner of that township nor any corners in the south 3 miles. He did find the corner of sections 13, 18, 19 and 24 and the corners north of there. Maxson reported resurveying the south 3 miles by surveying due south, 40 and 80 chains and "reestablished" the corner of Tps. 32 and 33 N., Rs. 48 and 49 E. He then "resurveyed" the "south boundary," running East, setting corners at 40 and 80 chains. He reported finding "traces" of a few of the Hatch corners and "destroyed" them. Maxson set his own corner for Tps. 32 and 33 N., Rs. 49 and 50 E., reported finding the Hatch township corner and destroying it. He then ran North, setting his own corners for T. 33 N., Rs. 49 and 50 E., reported finding some Hatch corners but again destroying them. Maxson repeated this same procedure along the north boundary. He then subdivided T. 33 N., R. 49 E. from the corners he had himself established. The Maxson plat of T. 33 N., R. 49 E., was approved on December 23, 1893.

On June 20, 1902, most of the odd numbered sections in these townships were patented to the Central Pacific Railway Company. Macmillan (and others) are successors in title to section 31, T. 33 N., R. 49 E.

From 1914 to 1920 retracements of the Maxson and Hatch surveys (in the course of completion surveys in adjacent townships) revealed the following situation:

The Hatch corner of Tps. 32 and 33 N., Rs. 48 and 49 E. was lost. This corner was restored by double proportionate measurement between recovered original Hatch corners 3 miles north, 2 miles east, 3 miles south and 1 mile west. From the restored corner the southwest corner of T. 33 N., R. 49 E. established by Maxson was located N. 16° 49' E., 2.32 chains distant. The field notes indicate that Maxson corners were found along the south 3 miles of the west boundary but none of the Hatch corners. Most of the Hatch corners along the north boundary of T. 32 N., R. 49 E. were recovered. All of the Maxson corners along the south boundary of T. 33 N., R. 49 E. were found, located from about 2 chains to more than 12 chains north of the Hatch corners. From the Hatch corner of Tps. 32

and 33 N., Rs. 49 and 50 E., the Maxson southeast corner of T. 33 N., R. 49 E., was located 11.60 chains north and 2.27 chains east.

The original Hatch ¼ corner of sections 7 and 12 on the east boundary was found and at the same point the corresponding Maxson ¼ corner of the same sections. Northerly therefrom, only the Maxson corners were found. In the south 4½ miles of the east boundary the recovered Maxson corners were found to the north and east of the recovered Hatch corners. Thus the Maxson survey overlapped the previously surveyed T. 33 N., R. 50 E., as monumented by Hatch, in the south 4½ miles. See the accompanying sketch.

The General Land Office surveyed the hiatus lands by extending the Maxson section lines southerly to an intersection with the Hatch north boundary of T. 32 N., R. 49 E., where closing corners were established. The south "half" of sections 32, 34 and 36 were lotted because those

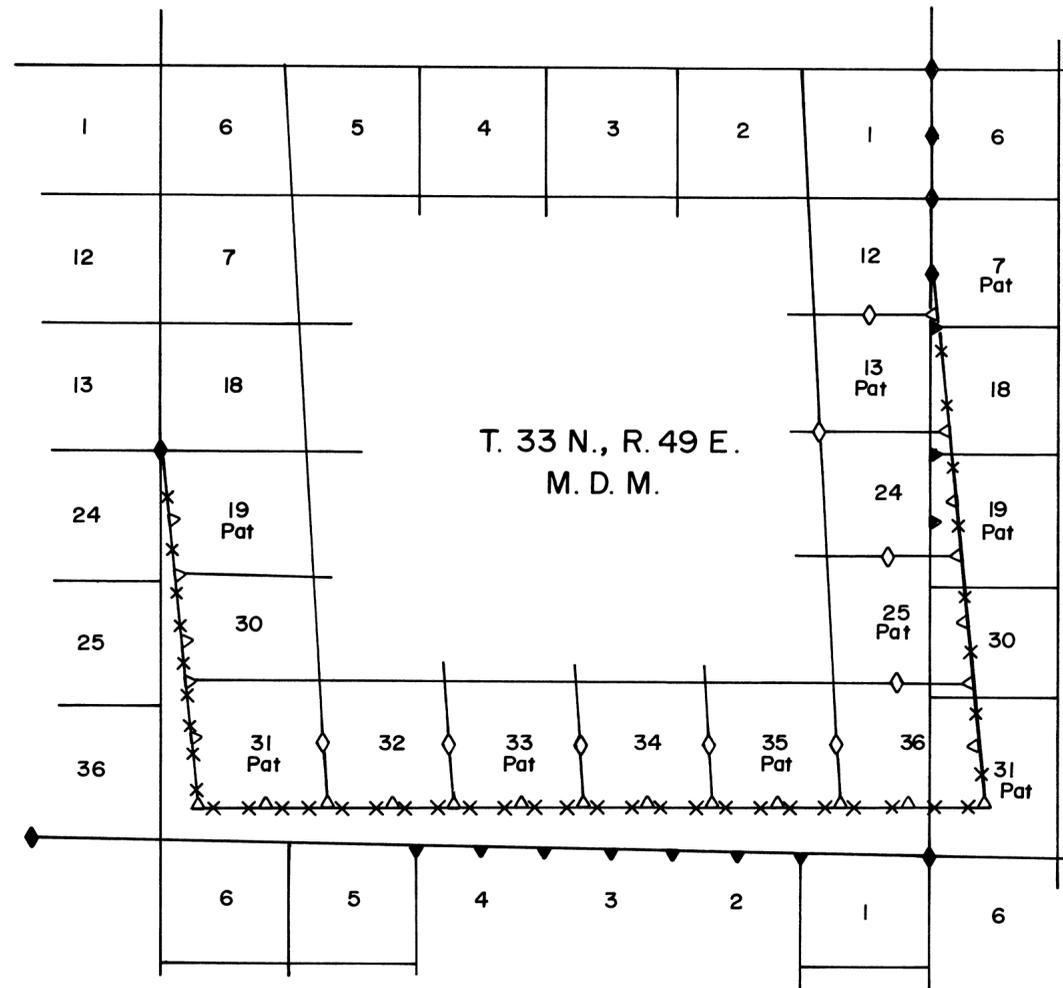
sections were still public domain. The hiatus lands south of the Maxson south boundary of the patented sections 31, 33 and 35 were lotted and were given appropriate areas and lot numbers pertaining to those sections.

The Maxson lines between sections 12 and 13, 13 and 24, 24 and 25, 25 and 36 were resurveyed but terminated with closing corners on the Hatch west boundary of T. 33 N., R. 50 E. Lots and areas were created in the vacant sections 12, 24 and 36 against the Senior Hatch line, eliminating the overlap of the Maxson survey of those sections into the patented sections in T. 33 N., R. 50 E.

In instructions for the method of survey to resolve the hiatus and overlap, the Commissioner of the General Land Office made the following comment:

"The only rights affected by this revision or extension survey in T. 33 N.,

R. 49 E. are those of the Central Pacific Railway Company in sections 13, 25, 31, 33 and 35. In sections 13 and 25 the railroad suffers a certain decrease in area, but this is more than offset by the increase obtained in sections 31, 33 and 35, and the adjustment, therefore, is not only equitable, but is advantageous to the railroad company."



◆ — = Hatch Corners and lines

◇ △ × × × = Maxson Corners and lines

U.S. v. Macmillan - Conditions Found

FUNDAMENTALS OF PROPERTY RIGHTS AND BOUNDARIES

The plat of survey was approved October 18, 1921 and is approximately as indicated in the accompanying sketch.

On August 4, 1964, the Bureau of Land Management issued a permit to the State of Nevada for removal of gravel from lot 5, section 31. Macmillan challenged the right of the Bureau to issue the permit on the grounds that it was patented land. In an action in the U.S. District Court, District of Nevada, the United States asked the court to declare lot 5 public domain.

Macmillan argued that all of section 31 was patented land and that since lot 5 was in section 31 it was patented, and that the letter from the Commissioner of the General Land Office proved this contention. The government argued that title had passed to the railroad for only the section 31 surveyed by Maxson and that his survey, monuments, plat and notes marked the boundaries of the patented lands.

The court ruled that the hiatus was public land, subject to survey and disposal as the

government saw fit, and that the letter from the Commissioner did not and could not pass title. If the government chose to survey the hiatus as additional lots appended to T. 33 N., R. 49 E. it had the right to do so, or survey those lands in any way they saw fit.

Even though only title to lot 5, section 31 was involved, the decision should extend to all of the hiatus lands south of the Maxson boundary. See also Rust-Owen Lumber Co., 52 L.D. 228 (1927).

After deciding the issue of lot 5 the court then indulged in dicta concerning the overlap along the east boundary. Their findings on the east boundary were dicta, because that matter was not argued before the court, nor was it really part of the action. The court said "We find the law to be that when two officially accepted surveys conflict and result in an overlap, the survey which is Senior in time controls." Later in the decision the court stated, "While overlaps are controlled by the survey which is Senior in time, hiatus lands remained in the public domain," and quoted from

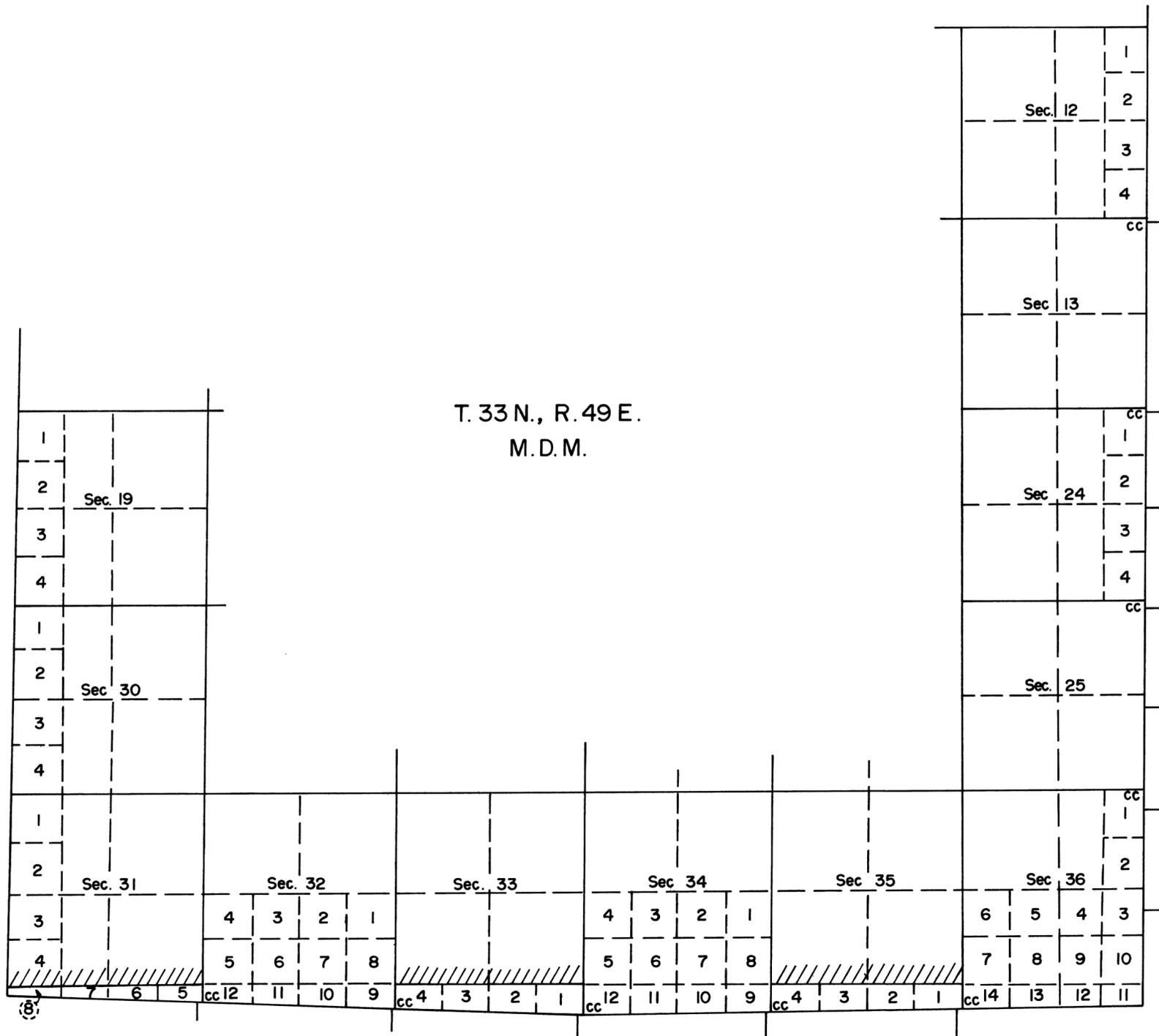
the concurring opinion in the Weyerhaeuser case. While it is generally true that a senior survey controls the limits of a junior survey (as will be seen later in this discussion), in this case the patents to the railroad were all issued on the same date and all of the lands were public domain immediately prior to the patent. Lands in T. 33 N., R. 49 E. were patented based on the Maxson plat while those in R. 50 E. were based on the Hatch plat. The 1921 survey plat only relotted the public lands in sections 12, 24 and 36, limited on the east by the Hatch monuments. It does not pretend to resolve the limits of the patented lands in sections 1, 13 and 25; that matter has not been decided and was not at issue in the Macmillan case.

In both Weyerhaeuser and Macmillan the monuments of both surveys existed on the ground, presenting conclusive evidence of the position of the lands surveyed. In Weyerhaeuser the hiatus was caused by human error in running the survey lines; in Macmillan the cause was an improper procedure (and some fiction) on the part of the second surveyor. But in both cases the monuments were found on the ground. It sometimes occurs that the field note record may be such that a hiatus is suspected. Or perhaps an excessively long distance from found subdivisional corners within the township to corresponding corners on the exterior boundaries may lead one to suspect a hiatus.

A suspected hiatus based on some conflicting distances in the field note record was the subject of an unreported land decision, MMW Land Company, et al., A-30544 dated January 17, 1967. The argument was that a hiatus existed adjacent to a township corner near Morro Bay, California. It was held in the decision that the government had no lands remaining to be surveyed (no hiatus) and the following statement made, "A true hiatus can only be shown by two separate lines, each supported by original evidence or a chain of evidence reaching back to the original monuments." (emphasis added).

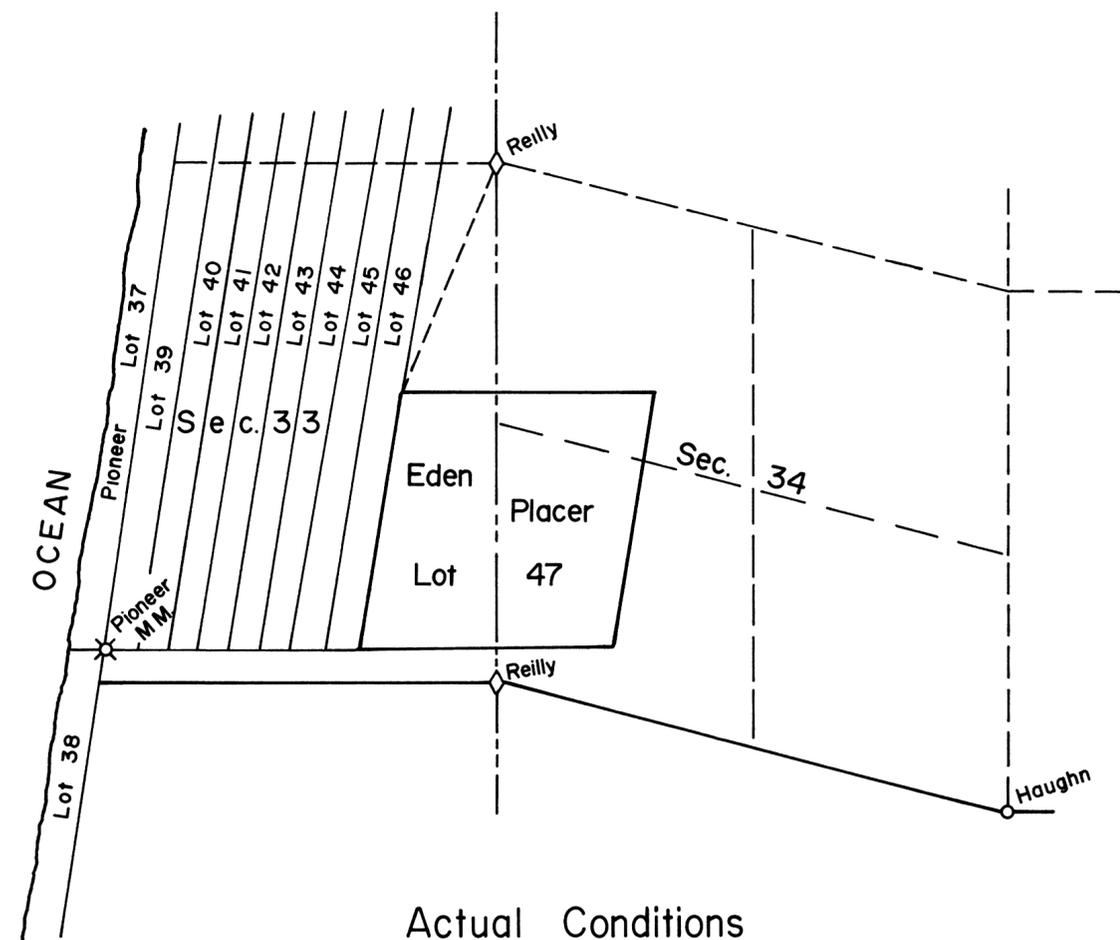
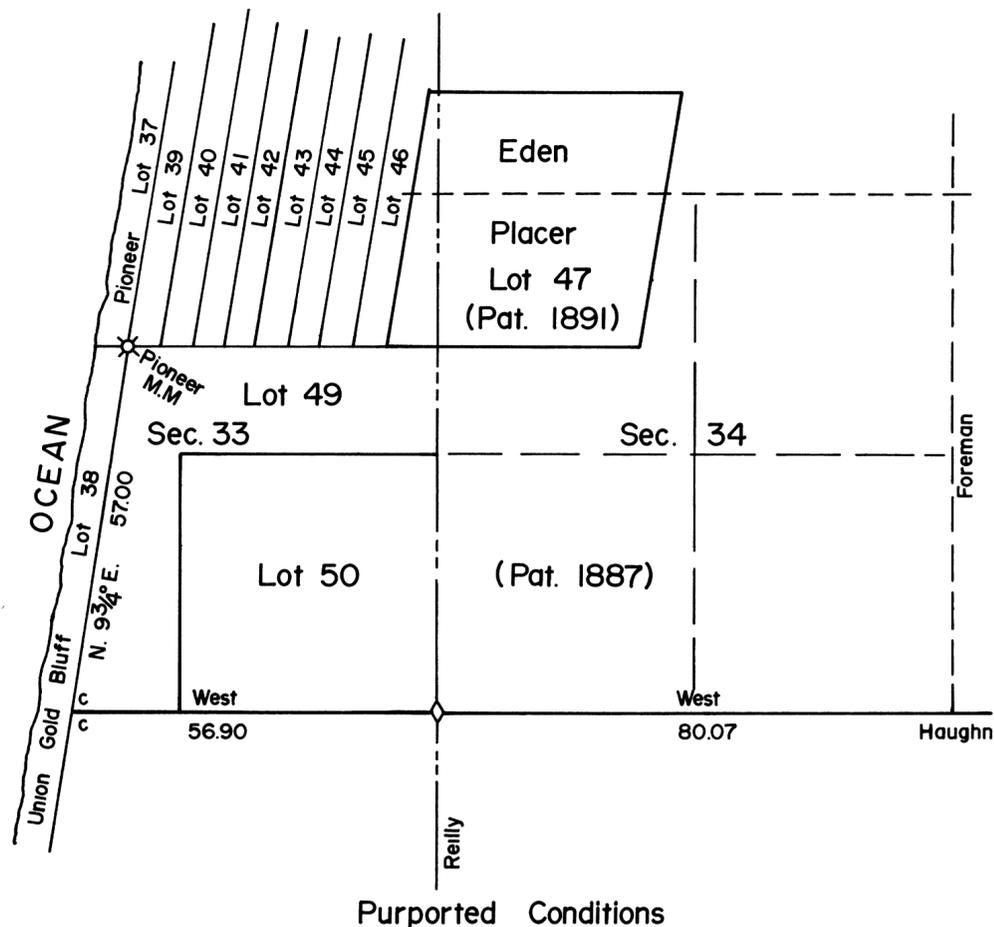
As to excessive distances alone, the same evidence would be necessary. Although the case of Vaught v. McClymond, (1945) 155 P. 2d. 612 had nothing to do with a hiatus, the Supreme Court of Montana made the following observation, paraphrased in the KEY statement, "The points where official federal government survey established corners and set monuments of survey for section, prevail over both course and distance in determining boundaries of section." Later in that decision the court said, "The fact that the location of the corner in accordance with an inaccurate government survey will set awry the shapes of the sections and subdivisions affected thereby does not affect the conclusiveness of the survey." (emphasis added).

The conclusion to be made is that when a hiatus exists, as proven by two separately monumented lines, the land is public domain, subject to survey and disposal by the government. Any hiatus must be based on evidence and cannot be based on conflicting field notes and/or excessive distances or areas alone.



Sketch of Approved Plat

FUNDAMENTALS OF PROPERTY RIGHTS AND BOUNDARIES



Overlaps

Title to hiatus lands is now governed by fairly well settled principle of land law. That is not the situation when dealing with the overlap problem. Many more considerations are involved, both as surveying problems and (ultimately) legal title problems concerning the lands that were surveyed in conflict. There are very few clear cut judicial decisions related to overlaps. The law on the subject is still in a stage of being developed and as a result the surveyor must proceed with much more caution and consider many more elements. Some of the elements he must consider are:

1. What is the evidence of location of the first (senior) survey? Is the evidence conclusive as to the location of the senior line? Do the monuments exist?
2. What is the evidence of location of the second (junior) survey? Is its location conclusive?
3. Was the junior survey executed and platted in a manner with its boundaries being expressly limited by the senior survey? Did the junior survey close against the senior survey (closing corners)? Did the junior survey adopt the senior corners (random and true line principle)?

4. Is the difference in location of the junior survey materially different from that of the senior survey, or is the conflict merely a technical difference caused by slight errors in executing the second survey?
5. What is the ownership status?
 - a. Is all of the land in the public domain?
 - b. If partially patented, when was entry first made and when was patent issued? On what survey plat was the patent based?
 - c. What is the sequence of patents in the area of conflict? Was patent issued to lands based on the junior survey prior to a patent (in conflict) based on the senior survey?
 - d. Is a patent based on the junior survey only in conflict with public lands as marked or determined by the senior survey?
6. Was the junior survey executed at a time when all of the lands in both townships were vacant public land, and if so did the junior survey supersede the senior survey?

7. Was the junior survey a dependent resurvey and therefore expressly limited by the boundaries of the senior survey?

These questions have to be considered and the true facts developed before a surveying solution can be determined. Often there is no survey solution, but there will be a preferable survey procedure. And in the end the most well-thought-out solution may be challenged and the final decision made by the courts.

Four court decisions illustrating overlap disputes follow:

Adams v. C.A. Smith Timber Co., (1921) 273 F. 652

This case arose because of a conflict between a patented mining claim and patented quarter section, both surveyed and monumented on the ground.

In 1873 the Pioneer Mineral Monument was established at the southeast corner of the Pioneer Placer Mine, lot 37, and northeast corner of the Union Gold Bluff Placer Mine, lot 38. In 1878 U.S. Mineral Surveyor Reilly surveyed an offset of the Humboldt Meridian northerly through Tps. 11 and 12 N., R. 1 E., establishing the northwest and southwest corners of section 34, T. 12 N.,

R. 1 E., as well as the other corners along that meridional section line. In 1882 John Haughn surveyed the north boundary and subdivisional lines of T. 11 N., R. 1 E. Haughn reported his north boundary as passing through the Reilly corner of sections 3, 4, 33 and 34 and closed the line between sections 4 and 33 against the Union Gold Bluff Placer, lot No. 38. From this closing corner Haughn reported a tie of N. 93° E., 57 chains, to the northeast corner of lot 38. Also in 1882 S.W. Foreman surveyed T. 12 N., R. 1 E. Foreman's notes, distances, and ties to mining claims conform to the ties allegedly made by Haughn. In 1888 A.T. Smith, Deputy Mineral Surveyor, surveyed the Eden Placer Mine, lot 47. His plat shows the Pioneer Mineral Monument to be due West, 39.98 chains from the southwest corner of the Eden Placer, but also ties to the northwest corner of section 34. The Eden Placer was located June 21, 1886. The southwest quarter of section 34 was patented in 1887 and was owned by the C.A. Smith Timber Co. The Eden Placer was patented in 1891 to Edson Adams. The survey plats indicated no conflict. (See accompanying sketch.)

It was later discovered in the process of surveying T. 13 N., R. 1 E., and in subsequent investigations that the Haughn and Foreman surveys were largely fictitious and grossly in error. The true relationship of the section lines and

mineral surveys were approximately as indicated in the accompanying sketch. The Pioneer Mineral Monument was really only about 270 feet north of the line between Tps. 11 and 12 N., R. 1 E., instead of 57 chains. The patented Eden Placer, lot 47, overlapped the patented SW¼, section 34.

Adams sued to quiet title to the Eden Placer on the grounds of the Haughn and Foreman surveys and the mining claim location in 1886. Smith claimed all of the SW¼, section 34 on the basis of senior patent and senior survey. The District Court held in favor of Smith. Adams appealed but the 9th Circuit Court of Appeals upheld the lower court, holding that the Senior patent controlled and that a mining claim location and assessment work did not constitute adverse possession. Adams received clear title to only the portion of the Eden Placer outside the SW¼ of section 34. (For complete detail the reported case should be read.)

This case was decided on the basis of the senior patent. There is little doubt that had the Eden Placer been patented first, prior to valid entry on the SW¼ of section 34, the Senior patent would have controlled, and the title quieted to the placer claim. The primary factor was the time in which valid rights were acquired. The next case is indicative of this critical factor.

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Lindsey v. Hawes, (1863) 67 U.S. 554

This case was decided on the basis of both date of entry and the position as determined by the original survey, and concerns ownership of a part of a fractional section in Illinois.

The section was originally surveyed in 1833 and the plat approved. In April 1839 Thomas Lindsey made application on the southwest part of the fractional northeast quarter of section 36, made fractional by the Mississippi River. On June 3, 1839, Lindsey paid for the land on a cash entry and received a certificate entitling him to a patent. Lindsey then moved to Iowa and died in September 1839. His heirs did not present the certificate for patent.

In 1844 it was discovered that the original 1833 survey contained errors and a resurvey was made and approved. By this "new" survey the improvements made by Lindsey were not located on the same land by description. In 1845 Hawes made a cash entry for the same described parcel for which the previous certificate to Lindsey had been issued, with knowledge of the Lindsey entry. In August 1845 the Land Office set aside and cancelled the Lindsey entry, without a hearing. In 1848 Hawes received patent to the parcel, based on the 1844 survey.

Subsequently Lindsey's heirs sued for recovery of the land entered by Thomas Lindsey in 1839. The lower courts ruled in favor of Hawes and Lindsey's heirs appealed to the U.S. Supreme Court.

The Supreme Court overruled the lower courts and awarded the parcel to Lindsey's heirs, ruling that the 1839 Lindsey entry was valid, the land office could not set aside that entry without proper cause, and that the location on the ground must be based on the original survey in effect at the time the valid entry was made. The 1844 "corrective" resurvey could not affect the valid rights acquired under the original survey.

This decision may be the basis for the procedures followed in independent resurveys, in which boundaries of all valid entries are based on the position as determined by the original survey. It also fixes the time of entry as the basis of acquired rights over the date of patent. However, the date of patent may be the deciding factor in title disputes if entry is no part of the case.

Branson v. Wirth, (1873) 84 U.S. 32
Wirth v. Branson, (1878) 98 U.S. 118

In December 1817 a military land warrant was issued to Giles Edgerton for 160 acres of land in a military reserve in Illinois. On January 7, 1818, a patent was issued to James Durney for the southeast quarter of section 18. On January 10, 1818, a patent was issued to Edgerton for the northeast quarter of section 18. Apparently Edgerton thought his patent was for the southeast quarter of the section. On July 29, 1819, Edgerton deeded the southeast quarter of section 18 to Thomas Hart, "according to the patent--- dated January 10, 1818." Hart discovered the mistake and sought relief from Congress. On March 3, 1827, Congress passed "An Act for the relief of the legal representatives of Giles Edgerton." This act granted Edgerton's assignee the right to select another quarter section of land "in lieu of the quarter patented to the said Giles, on the tenth day of January, one thousand eight

hundred and eighteen, which had been previously patented to James Durney---." Edgerton's assignee was issued patent to another quarter section within the reserve in 1838. The land office placed a memorandum notation on the margin of the Edgerton patent: "This patent was issued for the SE $\frac{1}{4}$ instead of the NE $\frac{1}{4}$ as recorded; sent a certificate of that fact to E.B. Clemson, at Lebanon, Ill., see his letter of 19th May, 1826." It is evident that at that point the land office thought the error in Edgerton's patent was cleared up; i.e., Durney had patent to the southeast quarter, Edgerton's assignee could (and eventually did) select another quarter section in lieu of the southeast quarter and therefore the northeast quarter of section 18 (named in Edgerton's patent) was once again vacant land. (The record does not reveal why Edgerton's assignee did not just take possession of the northeast quarter.)

On January 20, 1868, patent was issued to Edward F. Leonard for the northeast quarter of section 18. Leonard later sold the northeast quarter to Wirth. Branson claimed title to the northeast quarter as successor in title from Edgerton and through a tax title (deed) issued in 1843. In the lower court, Wirth argued that the original patent to Edgerton was in error and that Branson was estopped from claiming the northeast quarter by the act of Congress granting a lieu selection to Edgerton's assignee. Branson claimed title based on the wording in the original patent and on the tax deed, since, if the northeast quarter was really vacant land, it could not be taxed and could not be sold in default of failure to pay taxes. The lower court awarded title to Wirth and Branson appealed to the Supreme Court. The Supreme Court overruled the Circuit Court and awarded title to Branson, 84 U.S. 32. The case went before the Supreme Court again in Wirth v. Branson, 98 U.S. 118, with the first verdict upheld. Basically the Supreme Court ruled that the Edgerton patent to the northeast quarter was valid "---and that it thereby became exempt from further location until the first location should be set aside." The court further stated that "the government could not have reclaimed that quarter against its own patent, whatever deed Edgerton may have given to a third party for a different lot." Branson was not estopped against claiming title because of Edgerton's assignees being granted the right to select a lieu lot by Congress. No action was ever taken to cancel Edgerton's patent to the northeast quarter, therefore the patent to Leonard was invalid and Branson was the legal owner of the northeast quarter of section 18.

The Wirth v. Branson case is fundamentally a "First in Time, First in Right" decision and quite firmly establishes that once the government has issued a valid patent to a tract of land it cannot convey that land again to a second party. For a similar case see Shepley v. Cowen, (1876) 91 U.S. 330. Both Wirth v. Branson and Shepley v. Cowen were favorably cited in the case of Waldron v. U.S. (1905) 143 F. 413, a well stated decision based on the first in time, first in right principle.

A second survey which overlaps a senior survey is invalid for passing title if the land has already been patented on the basis of the senior survey. This principle has already been demonstrated in Adams v. C.A. Smith Lumber Co. previously discussed, but that case dealt with fictitious surveys. Two other cases deal with different circumstances. The first in which the senior survey did not control.

Russell v. Maxwell Land Grant Co. (1895)
158 U.S. 253

In 1871 the rectangular surveys were made of T. 33 S., R. 68 W., 6th P.M., Colorado and the plat was approved. Prior to this survey, on January 11, 1841, the territorial governor of New Mexico (at that time part of the Republic of Mexico) granted a tract of land to Charles Beaubien and Guadalupe Miranda, known as the Maxwell Land Grant. This grant was confirmed (with specified boundaries) by an Act of Congress on June 21, 1860. On April 6, 1874, Richard Russell filed entry on the W $\frac{1}{2}$ SE $\frac{1}{4}$, NE $\frac{1}{4}$ SW $\frac{1}{4}$ and SW $\frac{1}{4}$ NE $\frac{1}{4}$ of section 20, T. 33 S., R. 68 W. Patent was issued to Russell on September 5, 1876. The boundaries of the Maxwell Grant were surveyed and plat approved in 1878. Patent to the Grant was issued, based on the plat, on May 19, 1879. As surveyed and monumented on the ground, the parts of section 20 patented to Russell were within the boundaries of the Maxwell Land Grant.

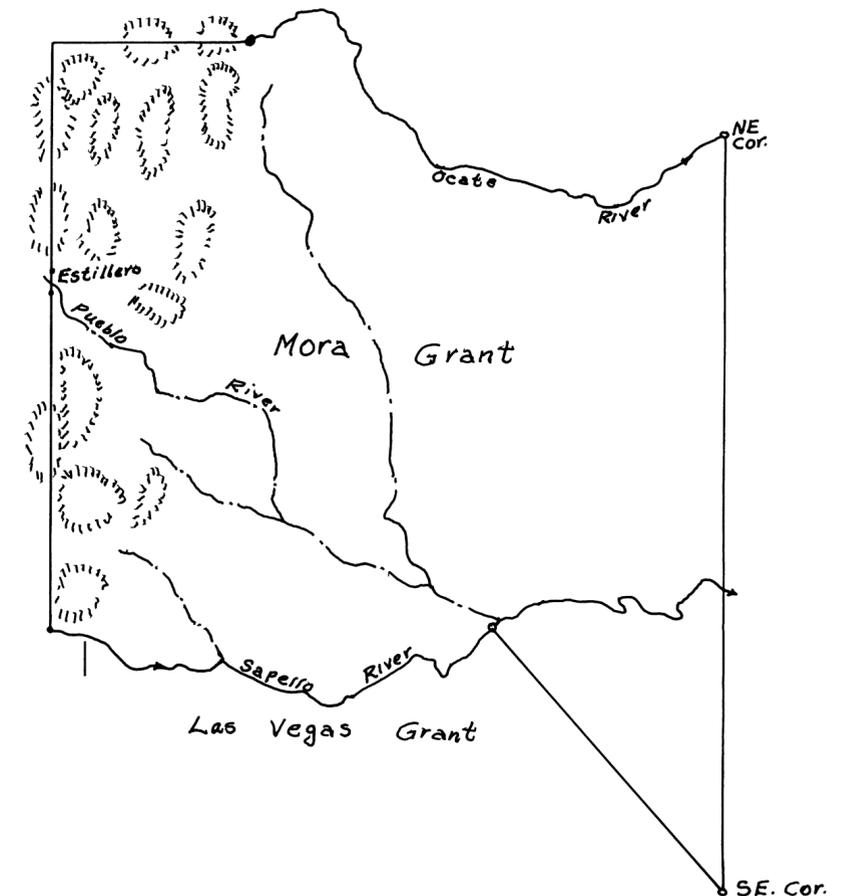
The U.S. Supreme Court ruled that the Maxwell Land Grant had a valid senior title. The act of Congress had confirmed title to the Maxwell Grant in 1860, the rectangular surveys on which Russell's patent was based were not made until 1871, after title to the land had passed even through the boundaries of the Grant were not surveyed until 1878. The Court stated, "A survey does not create title; it only defines boundaries."

U.S. v. State Investment Co. (1924)
264 U.S. 206, 68 L. Ed. 639.; 285 F. 128
(Eight Circuit Court)

This case dealt with the Mora Grant boundary in New Mexico.

The grant was made in 1835, and the boundaries loosely described as: On the north the Ocate River; on the south to where the Sapello empties; on the east the Aguage de la Yegua, and on the west the Estillero. The grant was confirmed by Congress on June 21, 1860. In 1861 Thomas Means surveyed the grant boundaries. Means began at the southeast corner, ran north on the east boundary to the Ocate River, thence west up the Ocate to the base of the mountains where he raised a large mound of earth and stated that this mound was 10 miles, 40.54 chains east of the northwest corner of the grant, the northwest corner being in the inaccessible mountains. Means had located the Estillero at a gap in the mountains. He ran a traverse from the mound of earth southwesterly to the Estillero and set three stone monuments on a north-south line which crossed the Pueblo River. He then traversed along the base of the easterly side of the mountains southerly to the Sapello River, thence up that river to a position which he calculated to be due south of the monuments at the Estillero, and set a stone monument for the southwest corner of the grant. He stated that the southwest corner of the Mora Grant was 2 miles, 3.10 chains west of the northwest corner of the Las Vegas Grant. Thus the only monuments ever established by Means along the west boundary of the Mora Grant were the three stones at the Estillero, which were later found, and the stone at the southwest corner, which was supposedly in line with the Estillero monuments, and which has never been found.

In 1882 Compton extended the rectangular township surveys and closed against what he thought was the west boundary of the Mora Grant;



after the patent to the grant had been issued in 1876, based on the Means survey and plat. But the exact location of the west boundary of the Grant was in dispute. In 1909 Compton was directed to resurvey that west boundary. Compton accepted as the southwest corner of the Mora Grant, an unmarked stone which he found 199.55 chains west and 73.16 chains north of the northwest corner of the Las Vegas Grant. He ran the west boundary of the Mora Grant north from there to the Ocate River. The Compton boundary, as so surveyed, was located about 3 miles east of the recovered stone monuments at the Estillero, set by Means. So the rectangular surveys overlapped the "Means line" by those 3 miles. The overlap area was claimed by the government. State Investment Company, owners of the Mora Grant, contested the claim in U.S. District Court. The District Court held that the true west boundary was a line drawn through the recovered Means monuments at the Estillero, because they were the monuments on which the plat and patent were based, and that monuments hold over courses and distances and (in this case) courses hold over distances. This decision was upheld by the Circuit Court of Appeals and finally by the U.S. Supreme Court. Even though the Compton survey and rectangular surveys were approved, they were junior in time to the Mora Grant survey and patent and created an overlap of surveys, but did not determine title to the lands within the overlap. The Supreme Court said, "A resurvey by the United States after issuance of a

patent does not affect the rights of the patentee;---

Both the Maxwell and Mora Land Grant cases are discussed here to illustrate the fact that a senior survey does not necessarily control the position or boundaries of land titles, and that calls for certain distances from given points do not control boundary positions. Distance calls by themselves cannot create an overlap.

If a township boundary was surveyed, the township subdivided and the plat approved, and a second surveyor subdividing the township adjoining expressly states that he ran his subdivisional lines to an intersection with the senior township line, then that senior line becomes the boundary of the junior survey; even though there may be ample circumstantial evidence that the closings were never made and that by extending the lines the recorded distance, an overlap (or a hiatus) would result. This principle is quite well stated by the U.S. Supreme Court in Newson, v. Pryor's Lessee, (1822) 7 Wheat. 10, 5 L. Ed. 382, and by the Fourth Circuit Court of Appeals in Ewart v. Squire (1916) 239 F. 34. Offline closing corners were part of the dispute in See Ben Realty Co. v. Gothberg, (1941) 109 P. 2d 455, in which the Wyoming Supreme Court held that an offline closing corner controlled the subdivisional lines of the sections involved.

FUNDAMENTALS OF PROPERTY RIGHTS AND BOUNDARIES

Junior-Senior Surveys and Corners

The treatment of monuments set during a "junior" survey, which were intended to be on the "senior" survey line is based on the principles laid down in the judicial decisions discussed above. If a township line was previously surveyed and approved and, during the course of executing a "junior" survey which is expressly bounded by the senior survey, the surveyor placed the junior monuments small distances off the senior line, the true points may be moved to the senior line during a resurvey. If the junior monument creates a conflict (or overlap) of the junior survey into the senior survey, the true point would have to be moved to the senior line in light of the decisions. Since the differences in position are usually small, the errors are more technical in nature rather than being truly errors or mistakes. The government does not usually claim very small hiatuses if in fact a junior monument has been placed a small distance off the senior line, but not in conflict with the senior survey. It should be remembered, however, that the junior survey has resulted in an approved plat and areas returned based on the junior monuments. Therefore the original position of the junior monument must be used to control the direction of lines, proportions, etc. within the junior survey; i.e., it is treated in a manner similar to an "offline" closing corner.

A junior corner located slightly inside (and in conflict with) the senior survey was the subject in *Van Amburgh, v. Hitt* (1893) 22 SW. 636. The case involved a junior corner of Survey No. 188, slightly in conflict with the senior Survey No. 212. The Supreme Court of Missouri held, (syllabus):

1. Of two overlapping surveys, the one first made has priority, particularly where the second is bounded with express reference to the first. (emphasis added).
2. Any calls of the second survey conflicting with monuments and calls of the first must yield thereto.

The court ruled that the junior monument, which the surveyor had expressly stated (in the junior survey) was on the senior line, could not and did not create a bend in the senior line, depriving the senior survey of about 64/100 of an acre of land. They then concluded by saying "We have carefully considered the case, but have been impressed with the view that the maxim, "de minimis lex non curat" might very well have been applied."

Black's Law Dictionary defines "de minimis lex non curat": The law does not care for, or take notice of, very small or trifling matters. The law does not concern itself about trifles.

Most junior-senior survey overlaps and hiatuses are so small as to bring them within the scope of the "de minimis" definition.

In the event of extensive obliteration or loss of the senior corners, the junior corners, if existent, may be the best available evidence of the position of the senior line. This principle was stated by Justice Straup of the Utah Supreme Court in his concurring opinion in *Washington Rock Co. v. Young*, (1905) 80 P. 382. In this case the court also favorably quoted from *Clement v. Packer*, 125 U.S. 309, in which it was said: "It is unquestionably true that a junior survey cannot control or enlarge the dimensions of a senior survey. We understand this to mean that, when the location of a survey is or can be ascertained or determined by its own marks upon the ground---its own calls and courses and distances---it cannot be changed or controlled or enlarged or diminished by the marks or lines of an adjoining junior survey, but when, from the disappearance of the original landmarks, caused by time and other agencies from the senior survey, the location of a particular line or the identity of a corner is left in uncertainty or becomes the subject of controversy, then the original and well established marks found upon a later survey made by the same surveyor about the same time, and adjoining the one in dispute, are regarded as

legitimate evidence, not to contest or control, but to elucidate, throw light upon, and thus aid the jury in discovering the exact location of the older survey."

These cases must be considered in their own light. However, they can be interpreted to mean that the junior survey cannot affect the monumented boundaries of the senior survey, but if the senior survey monuments have been destroyed, the junior survey monuments can be used to establish where the senior monuments were originally located. It would also be logical that in extreme cases of obliteration of a senior line (say a standard parallel) that the existent closing corners (junior), could be the best evidence available to prove the original position of the senior line, (the Standard Parallel). To be acceptable, such use of closing corners would have to be thoroughly substantiated by surrounding recovered corners and complete investigations of all evidences of both surveys.

Consider the following situation: Suppose that the boundaries and subdivisional lines of T. 5 N., R. 10 E. were surveyed and plat approved in 1870. In 1871 a contract was let for the survey of the north, south and east boundaries and subdivisional lines of T. 5 N., R. 11 E. When the second surveyor ran his line between sections 30 and 31 he misclosed, falling some distance north of the original corner of sections 25, 30, 31 and 36. The second surveyor then proceeds to resurvey the east boundary of T. 5 N., R. 10 E., returning new bearings and distances between the original corners (which he finds) and setting new corners at 40 and 80 chain intervals marked for T. 5 N., R. 11 E., and changing the original corners to refer to T. 5 N., R. 10 E., only. He then runs his lines between sections 30 and 31, 19 and 30, etc. on random and true lines into his new corners along the range line. The approved field notes and plat of T. 5 N., R. 11 E., clearly show the second surveyors bearings and distances between the original corners and that he placed his new (junior) corners on the senior (original) alignment. No valid entries of any kind were made in either

township until after both plats were approved. Subsequently, an entry resulting in patent, is made for (say) the west half of section 19, T. 5 N., R. 11 E., and after that for the NE¼ of section 24, T. 5 N., R. 10 E., leaving the remainder of section 24 as vacant public land. The patent in section 24 was of course based on the plat of T. 5 N., R. 10 E., which shows only the original (senior) survey.

During a current dependent resurvey of the public land in section 24, all of the monuments along the range line are recovered in their original positions and it is discovered that the junior corners, set in 1871 for section 19, are actually located a few links west of a straight line between the senior 1870 monuments. Where is the true boundary between the patented land in section 19 and the public land in section 24? The arguments might be presented in this order:

- 1) The senior survey of 1870 fully controls and the junior 1871 monuments should be moved easterly to that line. (Senior survey controls).
2. The senior patent in section 19 controls and the junior corners mark the boundary of that patent. (First in time, First in right).
3. All corners along the range line have equal weight because the second (1871) survey supersedes the first (1870) survey; the line should be run from corner to corner. (This based on the argument that since no valid rights had been acquired until after the second survey was approved, the government could, and did, survey its own land in any way it saw fit; and that an official government survey of public land does not ascertain boundaries, it creates them.)

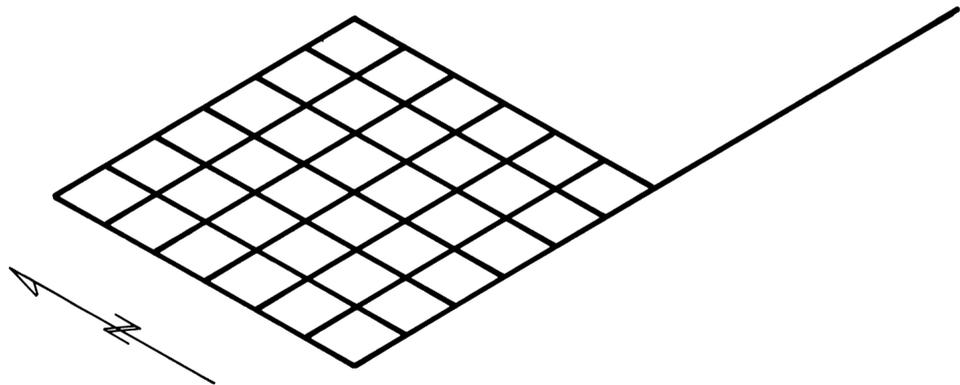
Argument number (3) is the correct procedure. Although the specific example is hypothetical, the same problem is widely confronted in actual situations. The solution would be different if:

1. The second survey of the range line was merely a retracement instead of a resurvey.
2. The second (junior) corners on the range line were in fact closing corners.
3. Patents or valid entries had been made in T. 5 N., R. 10 E., prior to approval of the plat of T. 5 N., R. 11 E.
4. An obvious hiatus or overlap existed instead of small differences usually termed as a junior-senior corner situation, that is; two separate lines instead of a technical difference.
5. No public land remained immediately bounded by the range line. If only the SW¼ of section 24 was public land (the rest being patented) the government has no interest in the line between private lands except insofar as it controls the remaining public land.

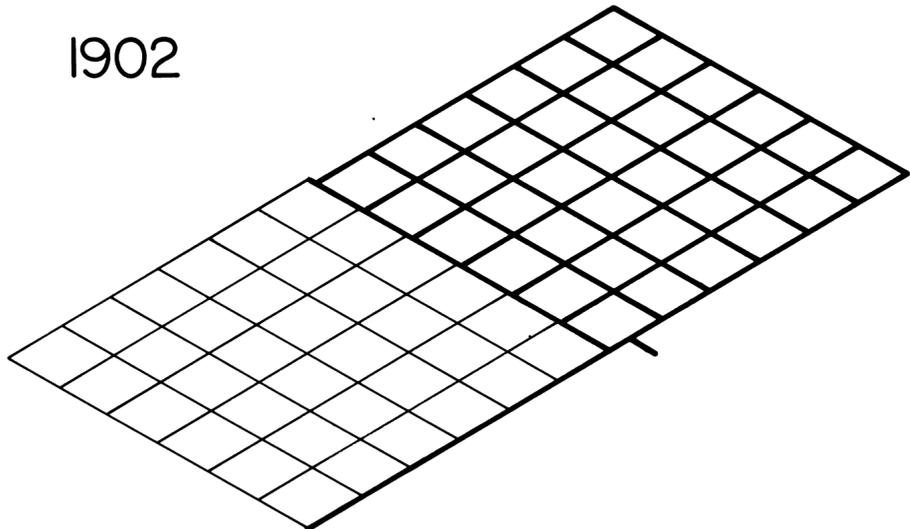
And the list could go on to many more possible conditions which would affect the treatment of the junior monuments.

JUNIOR-SENIOR SURVEY LINES

1892-93



1902



1926

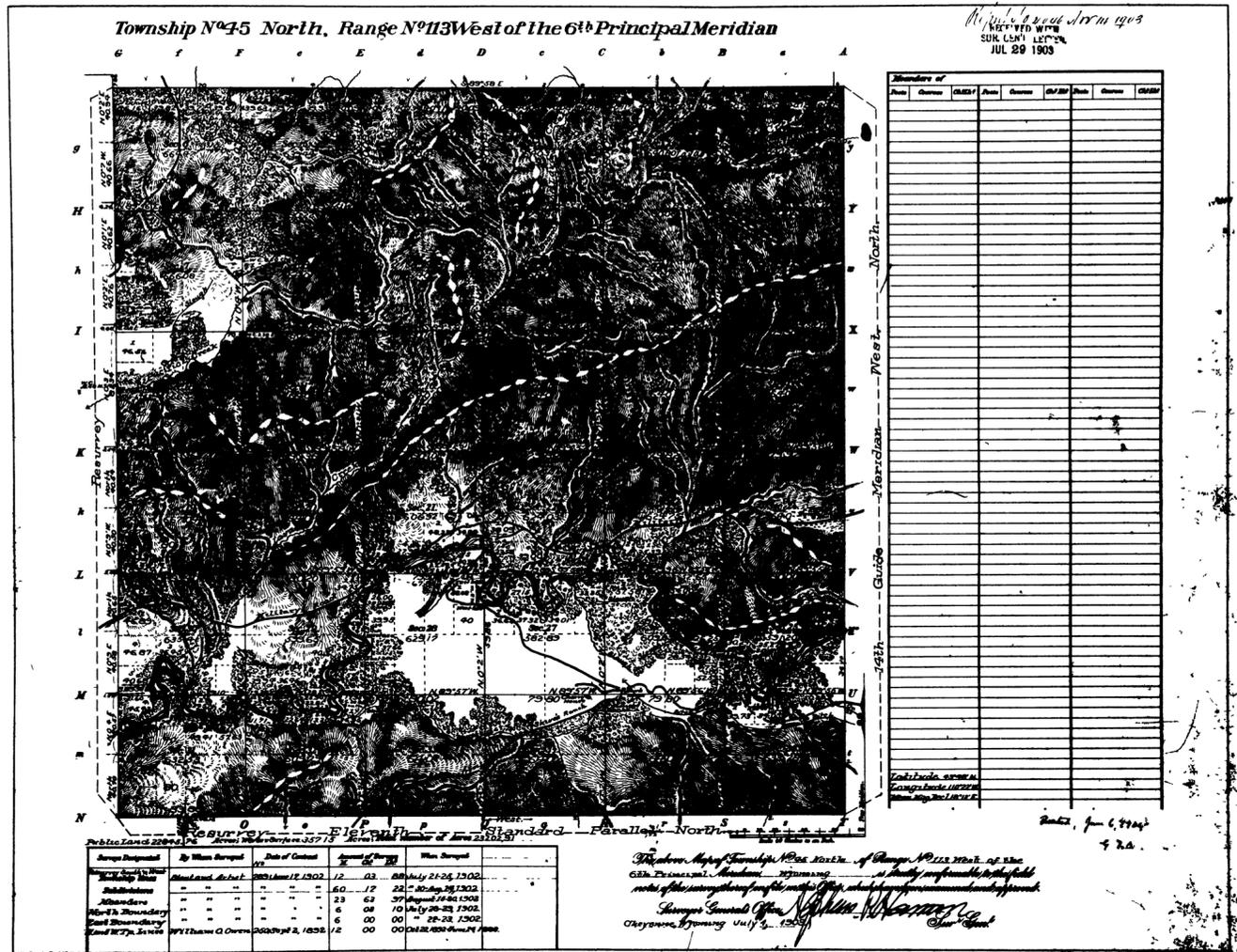
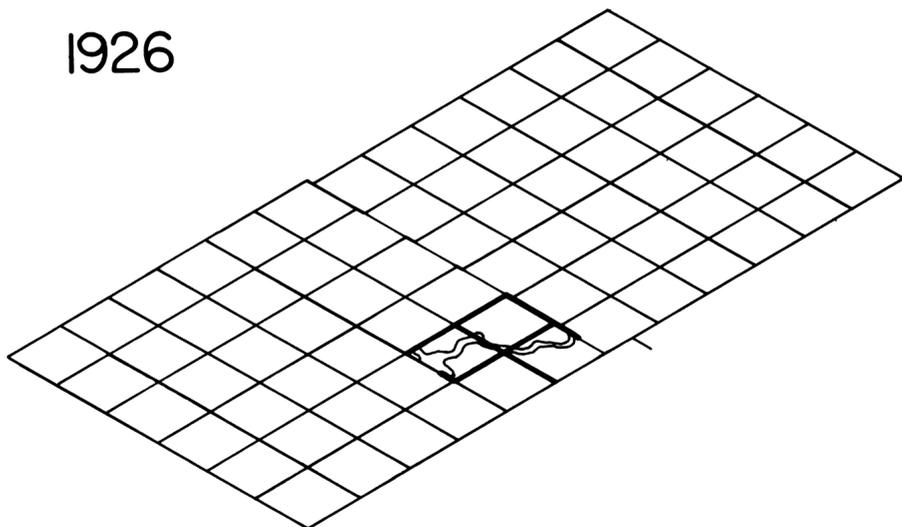


Figure 1a - Original Plat

History of Surveys

1892-93 William O Owen surveyed the Eleventh Standard Parallel North, through ranges 113 and 114 west as well as the east, west and north boundaries and subdivisional lines of T. 45 N., R. 114 W.

1902 Blout and Artist retraced the Eleventh Standard Parallel through range 114 west. They also independently resurveyed the standard parallel through range 113 west, retraced and resurveyed the east boundary of T. 45 N., R. 114 W., and surveyed the east and north boundaries and subdivisional lines of T. 45 N., R. 113 W., as shown on the plat approved July 1, 1903, in figure 1a and figure 1b.

Blout and Artist retraced the east boundary of T. 45 N., R. 114 W., returning distances and fallings to each of Owen's corners. The Owen corners could not be superseded because of the subdivisions in T. 45 N., R. 114 W. Blout and Artist then resurveyed the boundary on the Owen alignment, setting new (junior) corners at 40 and 80 chain intervals for T. 45 N., R. 113 W. The Blout and Artist resurvey notes do not agree with their own retracement notes in several instances. Figures 2a and 2b indicate the Owen record and the Blout and Artist retracement record for this range line. A comparison of figure 1 with figure 2b will reveal the discrepancies.

1926 Clyde W Atherly resurveyed a portion of the east boundary of T. 45 N., R. 114 W., a portion of the subdivisional lines and meandered Buffalo Creek. Atherly found the Owen (senior) corner of sections 24 and 25 and the 1/4 corner of section 36. He found the Blout and Artist (junior) corner of sections 19 and 30.

Atherly made no attempt to restore the missing corners on the Blout and Artist record alignment. He placed the lost corners on a direct line between the corner of sections 19 and 30 and the 1/4 corner of section 36, at single proportionate positions based on Blout and Artist's resurvey distances. Atherly also set new meander corners on Buffalo Creek, but not at the proportionate positions as returned by Blout and Artist. Atherly's plat, as approved February 15, 1927, is shown in Figure 3. Lands in sections 25 and 36, T. 45 N., R. 114 W., are patented, based on both the Owen and Atherly plats.

1962 The corner of sections 19 and 30 was remonumented by Andrew Nelson, under the Remonumentation Program.

Reasons for Request of this Survey

Lands in T. 45 N., R. 113 W., are intermingled patented lands, and lands within the Grand Teton National Park and the Teton National Forest. The Park and Forest boundaries are along section subdivisional lines. The Park Service and Forest Service requested a resurvey and subdivision of sections to define and mark the boundaries. This discussion is limited to the line between T. 45 N., Rs. 113 and 114 W.

Special Instructions

Special Instructions for Group 301-2, Wyoming, were prepared on May 6, 1966. They provided for the dependent resurvey of and subdivision of sections in several townships, including T. 45 N., R. 113 W. Field work on this township began on August 8, 1967.

JUNIOR-SENIOR SURVEY LINES



Figure 1b - Portion of Original Plat

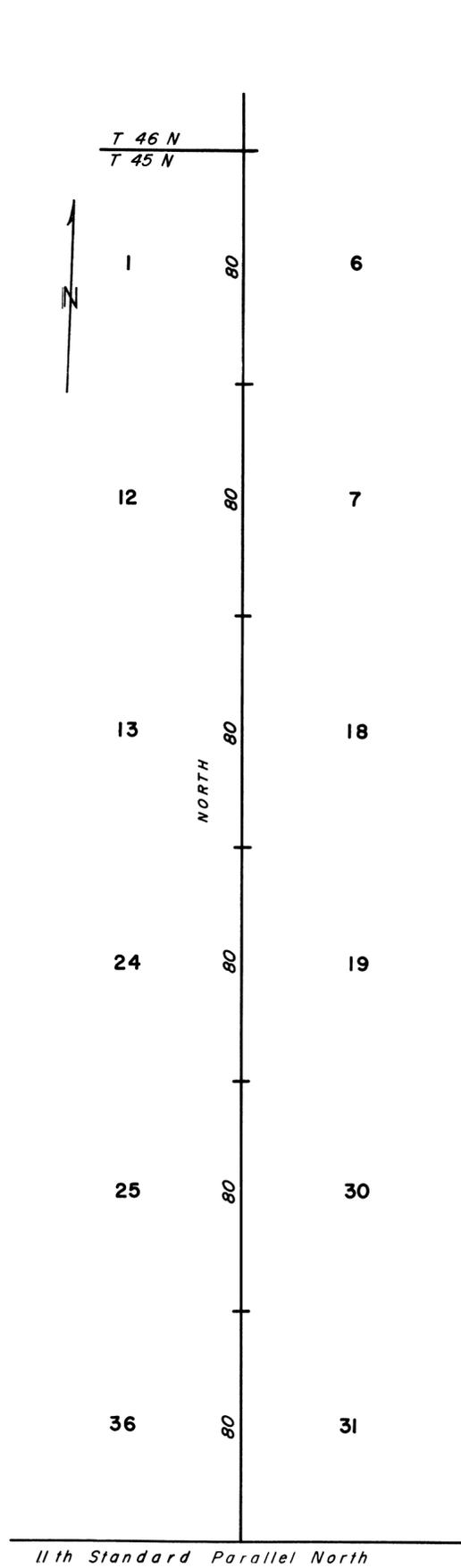


Figure 2a - 1892-93 Record by Wm. Owen

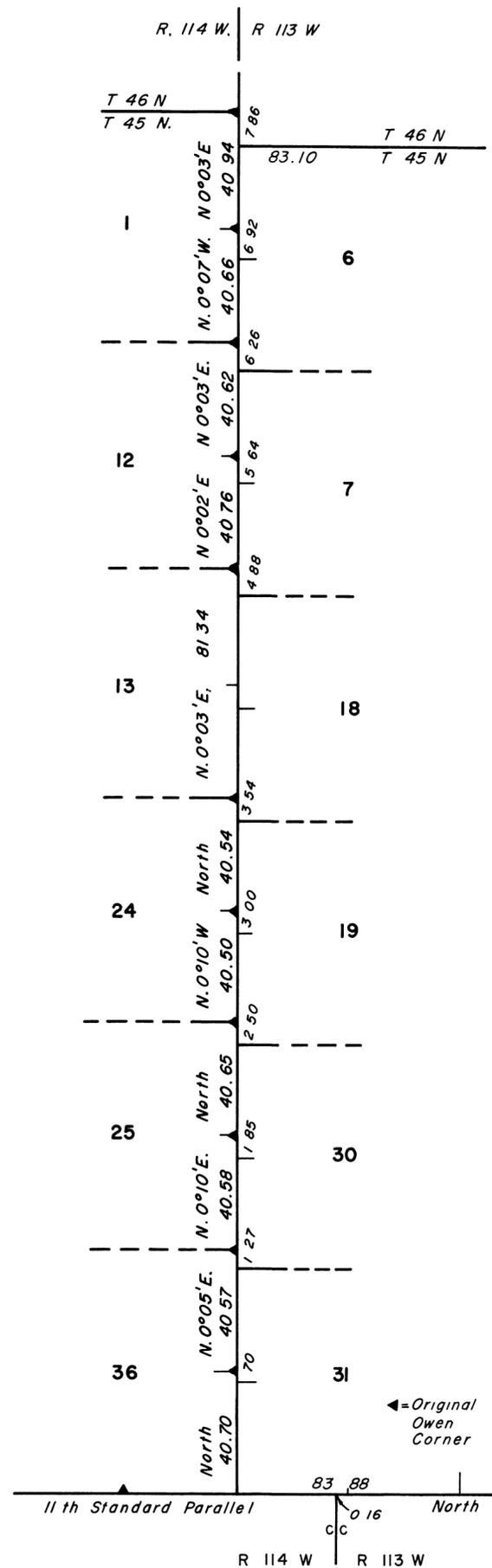


Figure 2b - 1902 Retracement by Blout and Artist

Conditions Found on the Ground

Figure 4a indicates the recovered corners along the range line and the bearings and distances between them as derived from the field tablets. Only four original Owen (senior) corners were recovered. Eight Blout and Artist corners were found. There are no large discrepancies between the present retracement and the Blout and Artist retracements.

Preliminary Statement of the Problem

The surveyor must restore the lost section and ¼ section corners along the range line by the proper methods.

Regulations

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

- 5-35 Junior-Senior lines
- 5-36 Irregular boundaries

JUNIOR-SENIOR SURVEY LINES

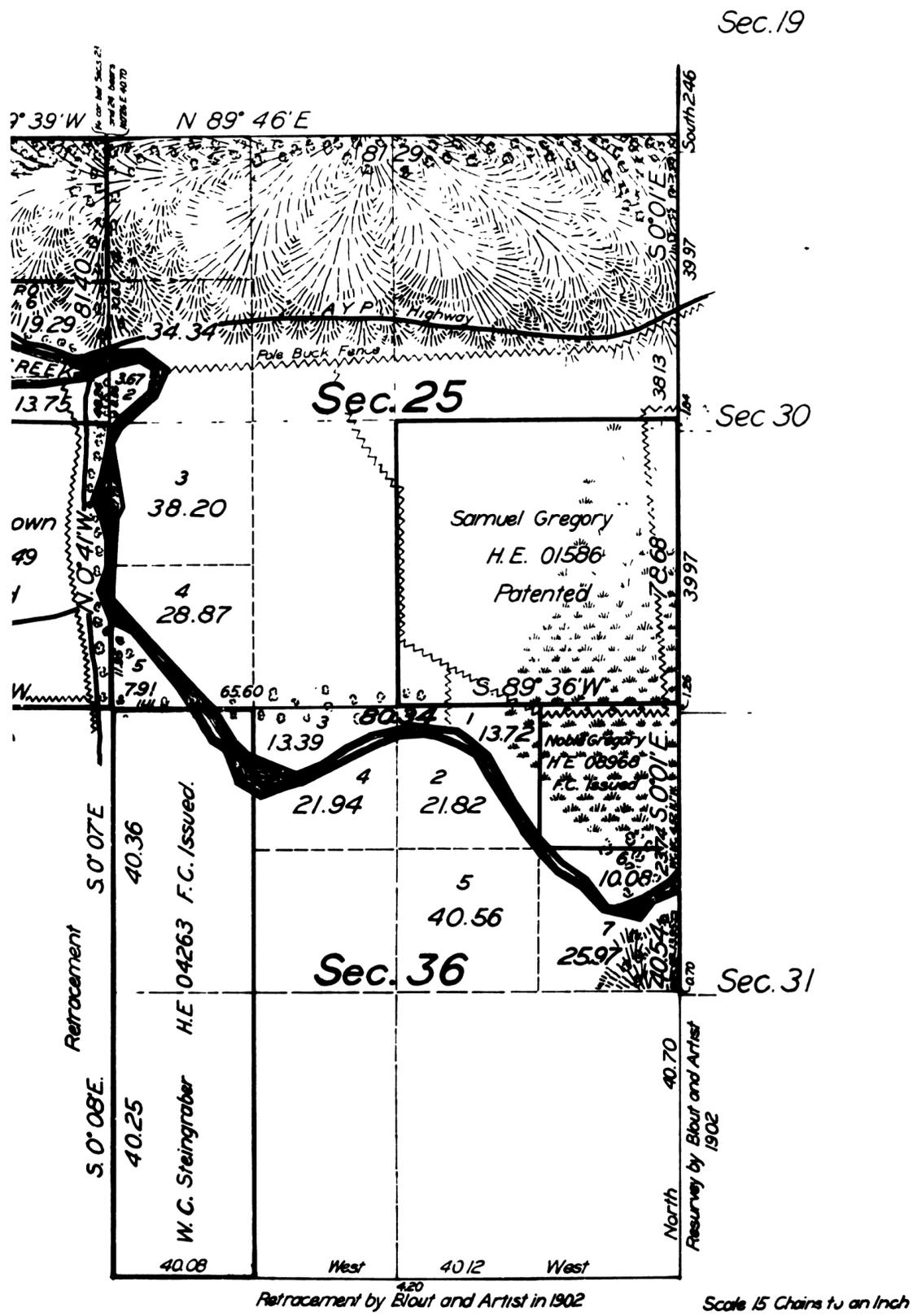


Figure 3 - Portion of Atherly's Plat

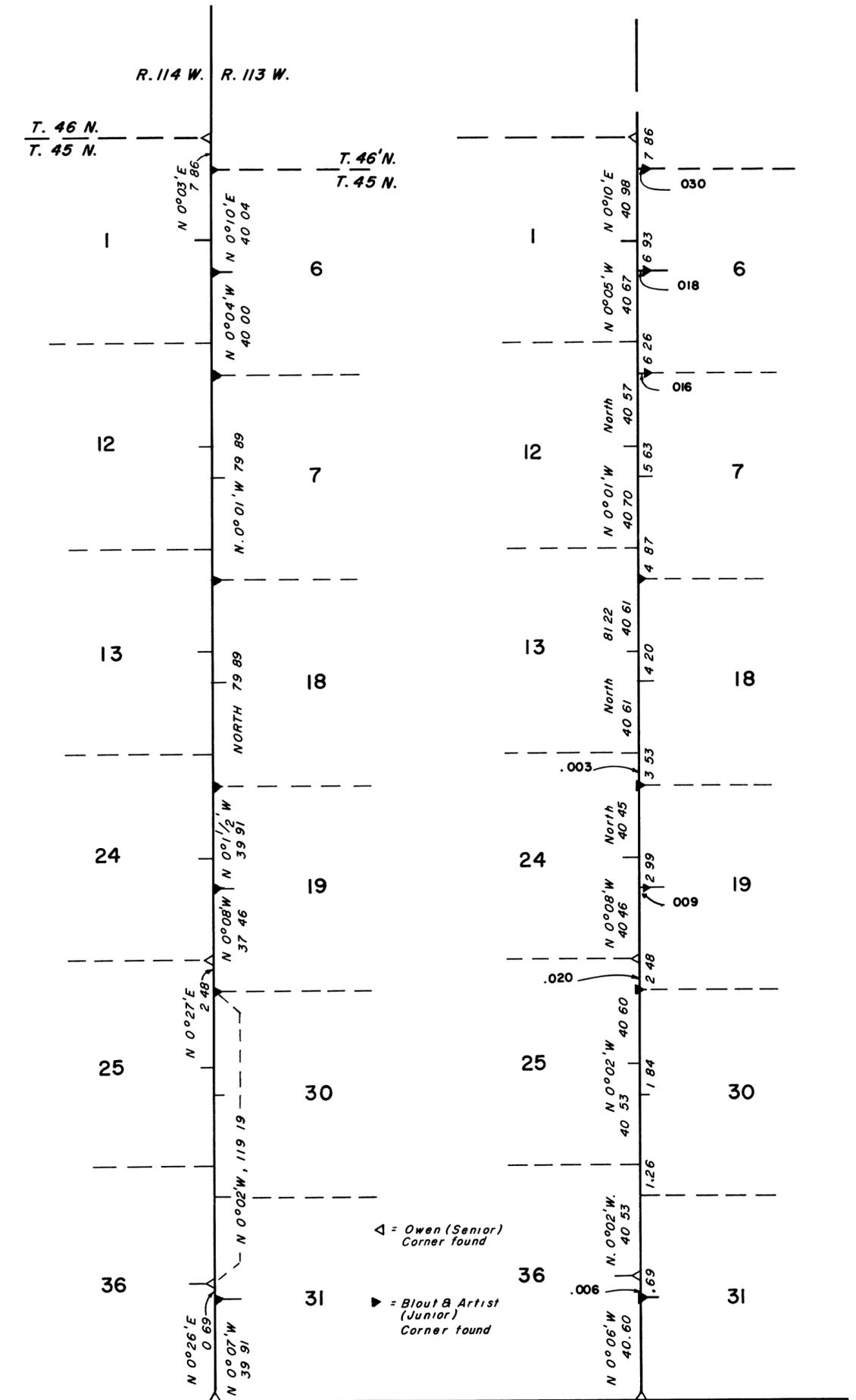


Figure 4a - Retracement Data for This Resurvey

Figure 4b - Dependent Resurvey Based on Blout and Artist Retracement and Atherly Resurvey

JUNIOR-SENIOR SURVEY LINES

Amended Information

The Manual of Surveying Instructions, 1947, in effect at the time of this resurvey does not contain "Junior-Senior" line provisions. Initially this resurvey was submitted to the Washington Office for approval with the line resurveyed from

one recovered corner to the next, the missing corners being placed at single proportionate positions as returned by Blout and Artist, and Atherly. The "break" in bearing occurred at each recovered corner. The Washington Office returned the plats and field notes with the following memorandum, reproduced in part:

The field notes of the resurvey of the west boundary of this township indicate that the controlling cors. along the east boundary of R. 114 W., have not been reestablished during the resurvey of this line. The location of the east boundary of R. 114 W. cannot be ignored because of the possibility of a hiatus between the west boundary of R. 113 W. and the east boundary of R. 114 W.

The west boundary of this township was surveyed by Wm. Owen, Deputy Surveyor, in 1892-93 as the east boundary of T. 45 N., R. 114 W. In 1902 Blout and Artist, Dep. Surveyors, resurveyed this boundary in conjunction with the survey of T. 45 N., R. 113 W. In their preliminary statement, at the top of page 16 of their field notes of the resurvey of the west boundary of T. 45 N., R. 113 W., they say: "The west boundary of T. 45 N., R. 113 W., being defective in measurement, I resurvey this boundary on the old alignment...". They then proceed to set the cors. for T. 45 N., R. 113 W., at 40 and 80 chs. but on line between found original cors. which are marked for minimum control to the west. They break measurement at the new cors. but break alignment only at the found original cors. The plat of the Blout and Artist survey of T. 45 N., R. 113 W., was prepared to indicate that the east boundary of T. 45 N., R. 114 W., was the controlling (Senior) boundary.

In 1926 C. W. Atherly, U.S. Cadastral Engineer, resurveyed a portion of the east boundary of T. 45 N., R. 114 W., from the cor. of secs. 24 and 25, southerly to the 1/4 sec. cor. of sec. 36. He appears to have used the distances between the senior cors., as reported by Blout and Artist, in restoring intermediate cors. at proportionate distance. However, he ignored the breaks in bearings between the controlling cors., as reported by Blout and Artist, and returned a single course from the cor. of secs. 19 and 30, T. 45 N., R. 113 W., to the 1/4 sec. cor. of sec. 36, T. 45 N., R. 114 W. Atherly reports that the evidence he found of the original cor. of secs. 19 and 30, T. 45 N., R. 113 W., indicates that it was marked as a closing cor. by Blout and Artist. He remonumented this corner with a sandstone but does not indicate that he marked it as a closing cor. In 1962 A. Nelson remonumented this cor. under the Forest Service Corner Remonumentation Program as a closing cor. because he reports that he found an original sandstone at the cor. point marked with a "cc" on the east face.

Patents issued along the west boundary of T. 45 N., R. 113 W., are based on the Blout and Artist 1903 plat. At the time of the Atherly resurvey, patents along the east boundary of T. 45 N., R. 114 W., were based on the W. Owen 1894 plat. How many recent patents in secs. 25 and 36 that have been issued and based on the Atherly Survey is unknown as we have no land status for T. 45 N., R. 114 W.

The history of surveys along the boundary between Tps. 45 N., Rs. 113 and 114 W. tends to indicate that it was the intention of all previous surveys to make the east boundary of T. 45 N., R. 114 W., the controlling boundary.

In view of the foregoing it appears that the west boundary of T. 45 N., R. 113 W., should have been resurveyed as the east boundary of T. 45 N., R. 114 W., and the notes rewritten between the cors. of R. 114 W.

Corners from the E-1/4 sec. cor. of sec. 36 to the cor. of secs. 24 and 25, T. 45 N., R. 114 W., should be restored according to the Atherly resurvey. Corners of R. 114 W., north of the cor. of secs. 24 and 25 may be restored from the best available evidence of these cors. which is found in the Blout and Artist resurvey.

The following described method is suggested for restoring the missing original senior cors:

1. Determine the positions of the missing senior cors. by the method of irregular boundaries (Section 375 of the Manual) between recovered junior cors. This will result in "dog legs" in the senior half miles.

2. Reduce the "dog leg" senior half mile to one course and adjust senior courses.

3. Compute how much the junior cors. would have to be moved to be on adjusted senior line. Our computations indicate that the moves ranged from 0 to 1.5 links.

Auxiliary Topic

Blout and Artist established meander corners on both banks of Buffalo Creek on the west boundary of section 31. The meander corner on the left bank at 14.15 chains north of the 1/4 corner of section 36, with the meander corner on the right bank at 21.11 chains. The Blout and Artist meanders in section 31 and areas of lots 4 and 5 are based on those distances.

Atherly did not restore the Blout and Artist meander corners on Buffalo Creek. He established new meander corners for section 36 at 13.95 chains and 16.80 chains north of the 1/4 corner of section 36. The areas of lots 6 and 7, section 36, are based on Atherly's meander corners and meanders of Buffalo Creek.

The riparian rights to any accretion caused by movement of Buffalo Creek would have to be based on two sets of meander corners. The field notes of this resurvey restore the meander corners on Buffalo Creek based on the Atherly resurvey, (see Figure 5a) without remonumentation, but describe the points as the "point for the meander corner of sections 31 and 36". The positions shown on Figure 5a are the proportionate positions for the meander corners of section 36 only.

Final Statement of the Problem

The surveyor must restore the lost corners along the range line in accordance with the Washington Office memorandum, the principles of which are now described in sections 5-35 and 5-36 of the 1973 Manual of Surveying Instructions.

Solution

Figure 4b shows the true bearings and distances as computed, based on the retracement data taken from the field tablets and on the Blout and Artist retracement notes. The senior (Owen) corners are held fixed. The missing senior corners are restored based on the position of the junior corners and retracement (rather than resurvey) record by Blout and Artist. The missing corners in the north four miles are restored by the irregular boundary adjustment. The corners of sections 25, 30, 31 and 36 are restored on a straight line between senior corners. The junior corners are off the senior line by the calculated amount shown in Figure 4b.

Figures 5a and 5b are the plats accepted March 17, 1971, which are based on the Blout and Artist (junior) resurvey record. There are minor differences because of the conflicts between the Blout and Artist retracements and resurvey notes.

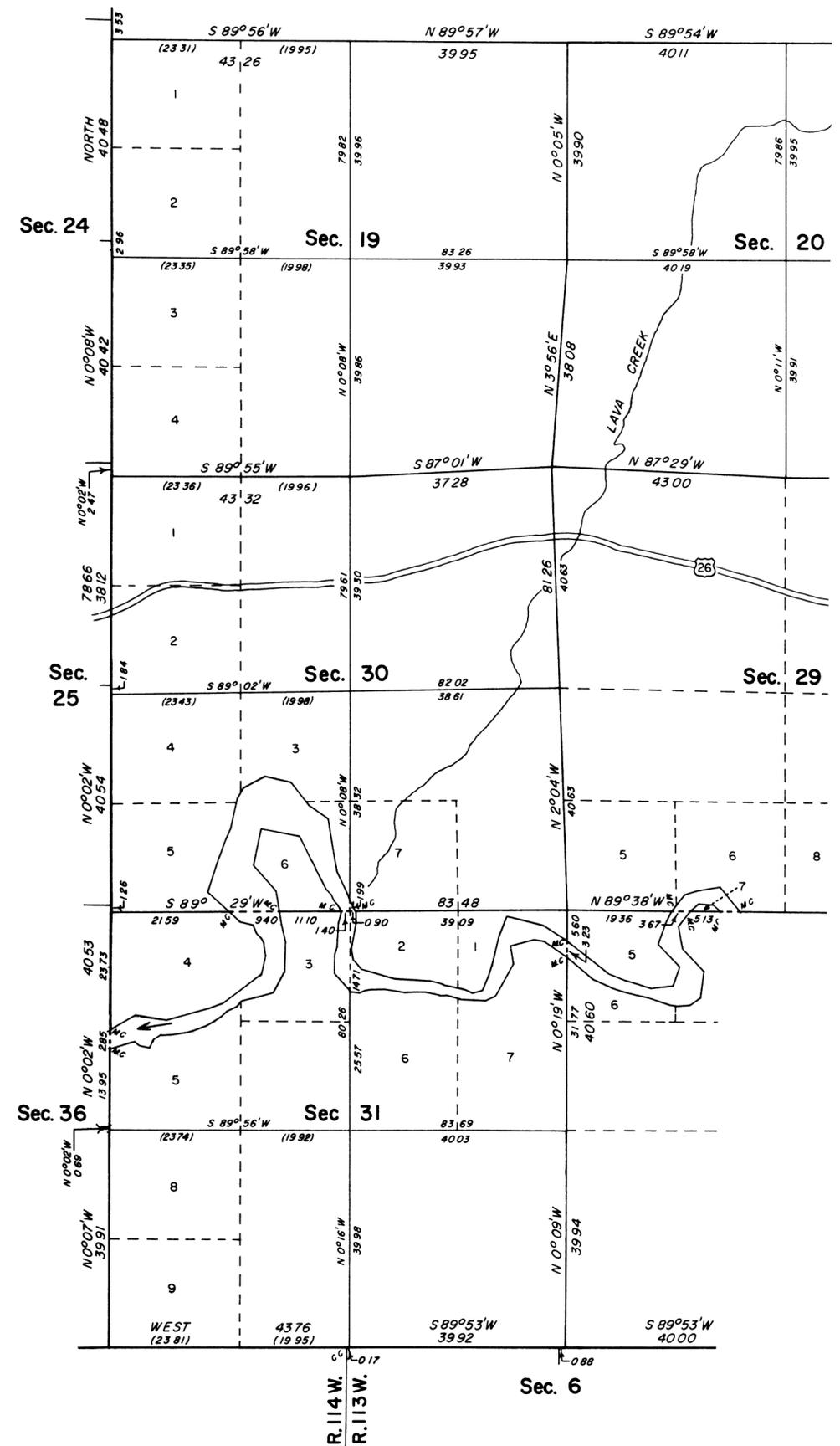


Figure 5a - Portion of Accepted Plat

JUNIOR-SENIOR SURVEY LINES

TOWNSHIP 45 NORTH, RANGE 113 WEST OF THE SIXTH PRINCIPAL MERIDIAN, WYOMING DEPENDENT RESURVEY AND SUBDIVISION

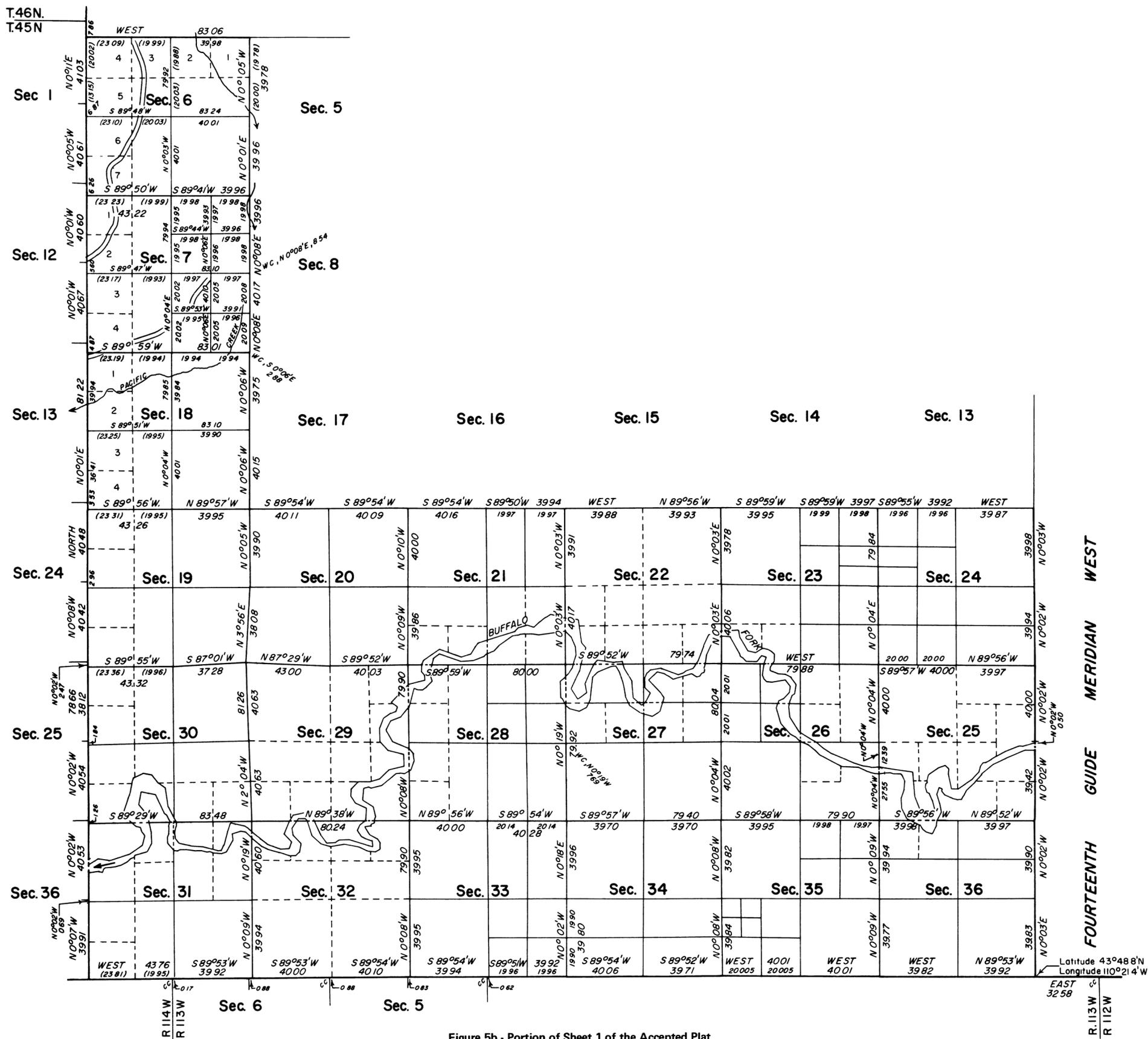
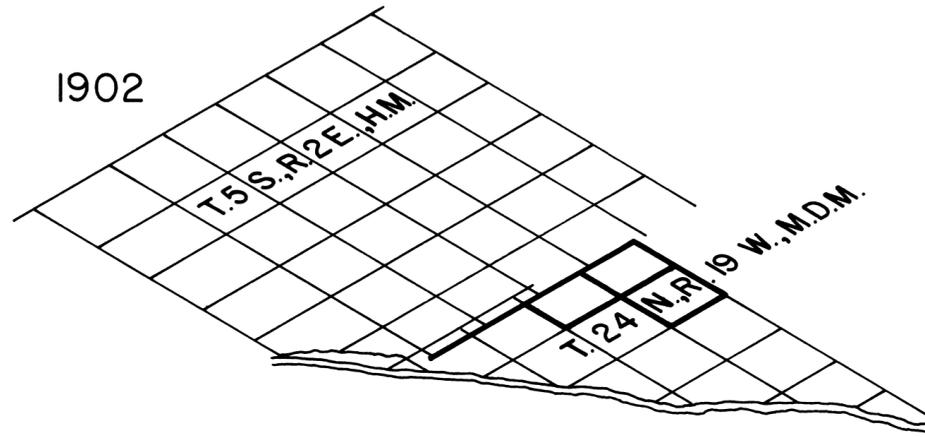
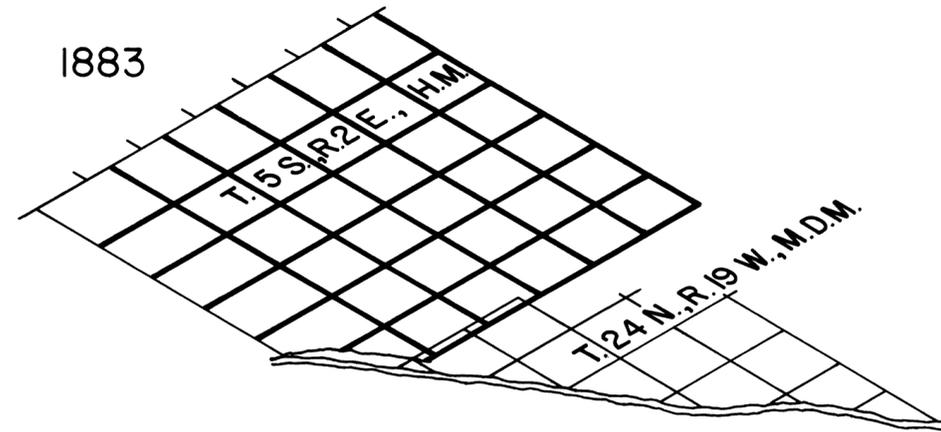
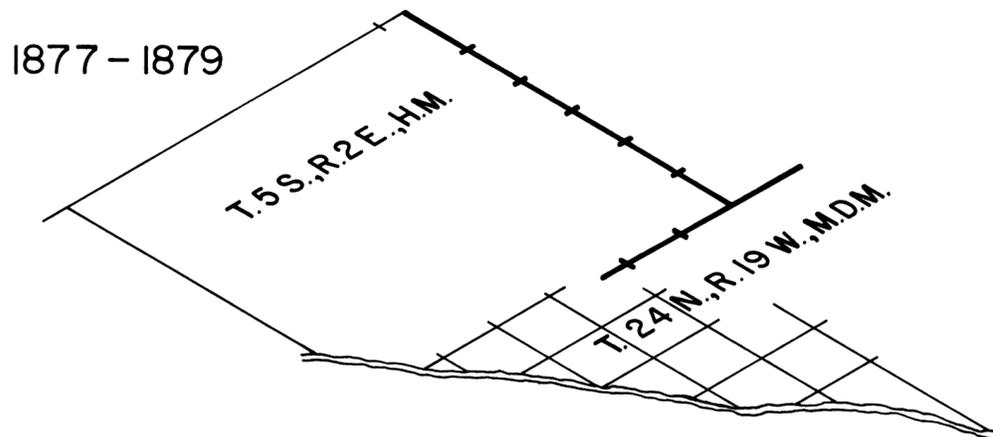
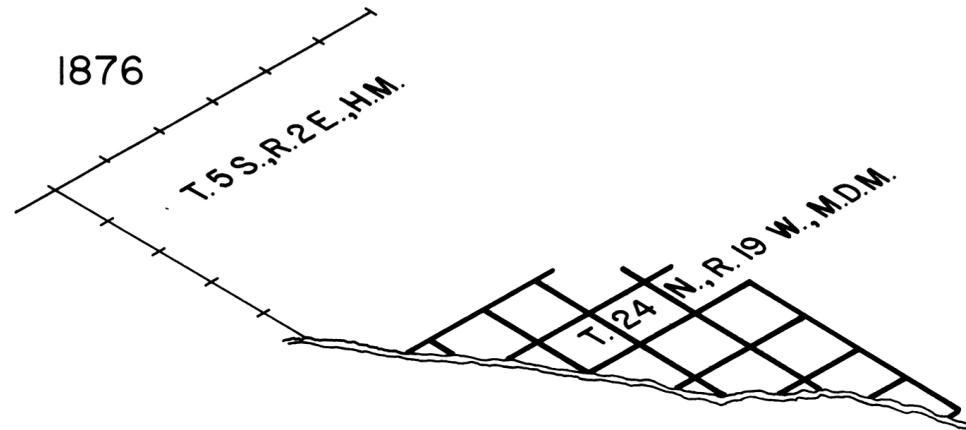
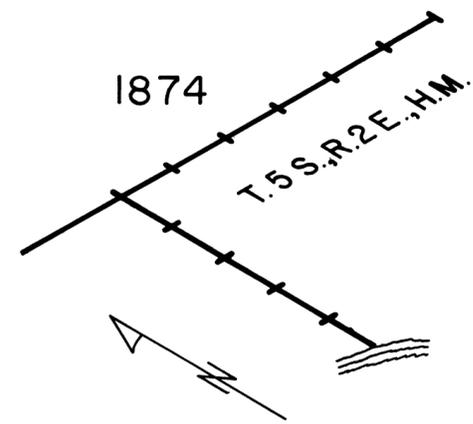


Figure 5b - Portion of Sheet 1 of the Accepted Plat

HUMBOLDT & M.D.M. OVERLAP



History of Surveys

1874 S. W. Foreman surveyed the First Standard Parallel South through Ranges 1 and 2 East, Humboldt Meridian. He then surveyed the east boundary of T. 5 S., R. 1 E., South from the standard corner of Tps. 4 and 5 S., Rs 1 and 2 E., and reported intersecting the Pacific Ocean at 4 miles, 65 chains and established a meander corner of fractional sections 25 and 30. See figure 1.

1876 George H. Perrin was given the contract to survey T. 24 N., R. 19 W., M.D.M. Perrin was directed to close T. 24 N., R. 19 W against the south boundary of T. 5 S., R. 2 E., H.M., which was not yet surveyed Perrin reportedly began at the Foreman

meander corner, meandered along the Ocean shore until he was 95.00 chains south in latitude and was then 58.20 chains east, at which point he set a meander corner on the south boundary of section 31 He then ran due East, set the corner of sections 31 and 32, a post in a mound of stone. He marked no bearing trees Perrin reportedly continued this line east, called a spur at 4.00 chains, ridge at 18.00 chains and marked a leaning madrone for the 1/4 corner of section 32 with two bearing trees at 40.00 chains. He continued the line and established corners over to the 1/4 corner of section 34 where he suspended the line. All the corners were posts in the mounds of stone, except the 1/4 corner of section 32.

Perrin then surveyed most of the subdivisional lines in fractional T. 24 N., R. 19 W., closing against his

south boundary of T. 5 S., R. 2 E. All closing corners were posts and mounds of stone with no bearing trees. Perrin did not complete sections 1 and 2. The Perrin plat was approved April 15, 1876, see figure 2. A sketch of the pertinent Perrin surveys is shown in figure 2a.

1877 J. R. Glover was given the contract to survey the south boundaries of Tps. 5 S., Rs. 2, 3 and 4 E., H.M., on which the Mt. Diablo surveys would close. Glover reported beginning at the southeast corner of T. 5 S., R. 4 E., ran a random line west and at 14 1/2 miles fell 4.35 chains north of the Perrin 1/4 section corner of section 34, T. 5 S., R. 2 E. Glover then reported returning on true line, setting corners for sections 34, 35 and 36, at 40 and 80 chains, and thus established the corner of Tps. 5 S., Rs. 2 and 3 E., H.M.

It was eventually revealed that Glover's tie to the Perrin 1/4 corner of section 34 was fictitious. The theoretical Glover position for that 1/4 section corner is approximately 30 chains south and 40 chains east of the theoretical position of the Perrin 1/4 section corner of section 34.

1879 J. E. Woods surveyed the east boundary of T. 5 S., R. 2 E. Woods ran north from the Glover township corner and intersected the Foreman First Standard Parallel South at 500 chains, 38.75 chains east of Foreman's standard corner of Tp. 4 S., Rs 2 and 3 E. The record thus indicated that the township was then 20 chains too long and nearly 40 chains too wide. The Glover and Woods records are indicated in figure 3.

1883 S. W. Foreman was given the contract to survey the subdivisional lines of T. 5 S., R. 2 E. Foreman reportedly retraced the east boundary, the south boundary, the south 65.00 chains of the west boundary and the meanders of the Pacific Ocean in sections 30 and 31. Foreman's notes are a duplicate of the preceding record except for small differences in distances, and the addition of one meander course

fronting section 30. Foreman made the first meander course S. 62 1/2° E., 43.00 chains and repeated the Perrin meanders thereafter. On the record this placed the Perrin south boundary 19.86 chains further south and 38.14 chains further east. Foreman then reportedly subdivided the township normally, placing the excess against the north and west boundaries. The Foreman plat was approved on July 26, 1883, see figure 4.

It was eventually revealed that the Foreman retracements and most of his subdivisional lines were fictitious and that if the lines were as reported, the southwesterly portion of T. 5 S., R. 2 E., H.M., would overlap sections 2 thru 5 of T. 24 N., R. 19 W., M.D.M., about as shown in figure 4a.

1891 A new boundary between Humboldt County and Mendocino County was to follow the 40th parallel of latitude. To survey the new county boundary, Sam Rice, a surveyor, began at a point 69.14 chains south of "the old triangulation station on Chemise Mountain," ran due west to the ocean, and then meandered along the beach southeasterly, and tied into what he described as the corner of sections 31 and 32, a redwood post, and described two bearing trees. Rice also tied into the old county boundary a few chains south of the section corner.

1892 Charles C. Taylor, a licensed land surveyor, was hired to survey a patented claim in sections 32 and 33, T. 5 S., R. 2 E., H.M. Taylor found the Perrin 1/4 corner of sections 3 and 4, T. 24 N., R. 19 W., M.D.M., ran north the record distance and set a closing corner for those sections. He stated that the old closing corner had been destroyed Taylor also reported finding the Perrin closing corner of sections 2 and 3, with 2 bearing trees (Perrin reported none) and then ran the north boundary of section 3 between the two "corners." Taylor found the Foreman 1/4 corner of sections 20 and 21, ran due south from it, intersected his north boundary of section 3 midway between the closing corners and used the point of intersection as

the corner of sections 32 and 33. He laid out his clients' claim in those sections accordingly Taylor's survey was never accepted as correct.

Taylor's notes revile the Perrin and Foreman surveys, insisting that most of the work was fictitious and the corner of sections 31 and 32 (tied in by Rice) was a fake "set by an outsider." Taylor says he reported all these things to the Land Office in Washington but was told that that office could do nothing to correct the situation. Taylor called the original surveys and the restoration of the corner of sections 31 and 32 "a Bensonian procedure from first to last." (Foreman, Perrin, Glover and Woods were all members of the then infamous Benson Syndicate.)

1892 Joseph A. Shaw, a licensed land surveyor, was hired by seven different claimants to survey their lands in the southern part of T. 5 S., R. 2 E., H.M. One client was Frank H. McKee, the patentee of the W 1/2 SW 1/4, SE 1/4 SW 1/4, SW 1/4 NW 1/4, section 32, T. 5 S., R. 2 E., patent issued November 24, 1888.

Shaw began his retracements at the corner of sections 19, 24, 25 and 30 on the east boundary. He retraced southerly and westerly, finding the township corner, the corner of sections 35 and 36 and the corner of sections 34 and 35 as set by Glover. Shaw tied in some of the corners of the Taylor survey, including the alleged Perrin closing corner of sections 2 and 3, but did not use any of them. Shaw found the alleged Perrin corner of sections 31 and 32, tied in by Rice (and ridiculed by Taylor.) Shaw obtained sworn affidavits from Frank H. McKee and James Yates in which they stated that they had set the post and marked the bearing trees under the direction of S. W. Foreman in 1883. They also stated that Foreman had determined that point as due West, 16.20 chains distant from Perrin's closing corner of sections 4 and 5, which was still in existence at that time. Shaw found no evidence of any other corners along the south boundary. He single proportioned the "lost" corners between the Glover corner of sections 34 and 35 and the "Perrin-Foreman" corner of sections 31 and 32.

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Shaw found the east ¼ section corner of section 13, T. 5 S., R. 1 E., ran due south from it but found no original corners. He intersected the ocean at 210 10 chains where he set a meander corner. He then single proportioned the missing corners for range 1 east (against the record of 185 chains) but set new closing corners for R 2 E., at Foreman's record distance south of his proportioned corners for R 1 E.

Shaw then ran west from the corner of sections 31 and 32, intersected the ocean at 22 96 chains (record was 21 80) and set a meander corner for section 31. He then ran the meanders of the ocean between his meander corners.

Shaw ran extensive random lines through T 5 S., R 2 E recovering several original Foreman corners near the main arteries of access. He found a house which Foreman reported to be 23.00 chains north of the corner of sections 21, 22, 27 and 28. After developing all the control corners he could, Shaw double proportioned the missing section corners based on the Foreman record. Shaw found no original corners along the first latitudinal line so he used the actual position of the ocean for his east-west proportionate positions. He found no original corners along the fifth meridional line and used the latitudinal position of the recovered closing corner of sections 4 and 5 on the north boundary. He used the old house for control on the third meridional line. Shaw also tied in the new and old county boundary lines.

After reestablishing all of the section corners he needed, Shaw then surveyed the boundaries of his client's claims on calculated courses and distances.

The pertinent record of Shaw's resurveys, corner recovery, etc are shown in figure 5.

Richard York, Mendocino County Surveyor, was employed by J.L. Stewart to survey his claim in sections 30 and 31. The available records indicate that York began his survey at the southeast corner of T. 5 S., R. 2 E., and ran west the Foreman record distance which placed him on top of a ridge above the ocean and about a quarter mile east of the shore. York found a burned stake at what he thought was the ¼ section corner of section 32, set a new post, went on west ¼ mile, set a corner of sections 31 and 32 and then surveyed the Stewart claim on record bearings and distances based on the Foreman plat. York's survey would have placed the Stewart claim almost directly on top of the McKee patent as based on Shaw's survey.

On February 10, 1896, patent was issued to John L. Stewart for lots 1, 3 and 4, section 31 and the SW¼ SE¼ section 30, T. 5 S., R. 2 E. Stewart subsequently sold the patented land to J.A. Kimball.

Kimball (or Stewart) hired a surveyor named Sandow to survey the Stewart patent in sections 30 and 31, T. 5 S., R. 2 E. The records does not include the exact dates. Sandow began at the original (Foreman) ¼ section corner of sections 20 and 21, ran south for 2½ miles, and west for 1 mile to the record position of the corner of sections 31 and 32. He then surveyed the claim. A man named Champagne who lived in section 35 helped sandow and later testified that Sandow's survey very nearly agreed with York's positions.

Kimball hired a surveyor named Chapman to survey lots 1, 3 and 4, section 31 and the SW¼ SE¼ section 30, T. 5 S., R. 2 E. Chapman began at what he believed to be the ¼ corner of section 32, as pointed out to him by "an old settler." Chapman ran west 40 chains, set a corner of sections 31 and 32, and a meander corner at 61.80 chains, on top of the bluff along the ocean, about ¼ mile from the shore. Chapman also surveyed out the Kimball lands based on the Foreman record.

Kimball sued Frank H. McKee for \$5,000 trespass damages. McKee had cut tanoak trees and stripped them for the bark (used in tanning leather), based on Shaw's survey. This was much the same land claimed by Kimball based on Chapman's survey. The Superior Court verdict awarded damages to Kimball. McKee appealed to the California Supreme Court.

While the "McKee Trespass Case" was still in litigation the Commissioner of the General Land Office ordered Henry L. Chandler, Examiner of Surveys, to investigate and resurvey the south boundary of T. 5 S., R. 2 E. On May 10, 1902, Chandler began at the positively identified Glover corner of sections 34 and 35, ran a random line west and at 260 00 chains fell 1.95 chains south of what he believed to be the meander corner of section 31, a wood post, located on

top of the bluff above the ocean. He reported finding no other corners in those 260.00 chains. Chandler then single proportioned the "lost" corners, based on the Perrin-Glover record. The "meander corner" used by Chandler was the post set by Chapman.

1902 Alfred Bannister, Deputy Surveyor, completed T. 24 N., R. 19 W., M.D.M. Late in May and early June 1902, Bannister resurveyed the Glover south boundary of sections 34, 35, and 36 and the Chandler line to the ¼ corner of section 33. He resurveyed portions of the Perrin subdivisional lines of sections 1, 2, 11 and 12 and completed the township, closing against the Glover-Chandler line. The protracted outlying part of the NW¼ of section 2, shown on the Perrin plat was ignored. The Bannister plat was approved April 7, 1903, see figure 6. A sketch of the Chandler survey and pertinent portions of the Bannister survey are shown in figure 6a.

1906 On July 12, 1906, the California Supreme Court affirmed the McKee appeal and ordered a new trial (See Kimball v McKee, 86 P 1089). In the majority decision the Supreme Court ridiculed the Chapman survey as being totally in error in that the "Old Settler" corner (¼ corner, section 32) used by Chapman was actually the point set by York; Chapman should have used the ocean shore as an identified monument, and that since Foreman's notes and plat showed that he had surveyed the lines it must be presumed that he had done so. Basically the ruling upheld the Shaw survey and threw out Chapman's.

A strong dissenting opinion upheld Chapman's work. On rehearing, court costs and attorney's fees were awarded to McKee.

1944 Oscar G. Larson, Registered Engineer No 1754, of Eureka, California wrote to the Washington Office, briefly explaining that much confusion existed in the southern part of T. 5 S., R. 2 E., that no original corners had been found along the first latitudinal line and asked advice on the proper method of restoring corners along that line considering the great excess distance to the ocean. He was advised to use "three point control," record distance from the east boundary and proportion from the south boundary to the nearest authentic corner to the north.

1944-55 From 1947 into the mid 1950's, Oscar Larson, A.B. Bones, J.K. Richardson and Donald E. Bushnell, all licensed engineers or land surveyors, performed extensive resurveys in T. 5 S., R. 2 E., and T. 24 N., R. 19 W. They recovered all of the original Foreman corners reported found by J.A. Shaw in 1892, many of the corners established by Shaw and nearly all of the Glover-Chandler-Bannister corners along the south boundary. The Perrin-Foreman corner of sections 31 and 32, used by Shaw, was also recovered. These private surveys were executed according to the Washington Office memorandum in apparent good faith and proper execution. None of the Shaw corners in the south two tiers of sections (25 thru 36) were honored. Since the only corners in the north four tiers that had existed since 1892 were either original Foreman corners or Shaw restorations, land ownership in those tiers were based on Shaw's work and had been stable for over 50 years. The private surveyors honored the Shaw corners, (wherever recovered) in sections 1 thru 24. The pertinent records of these private surveys are shown by a composite sketch, figure 7.

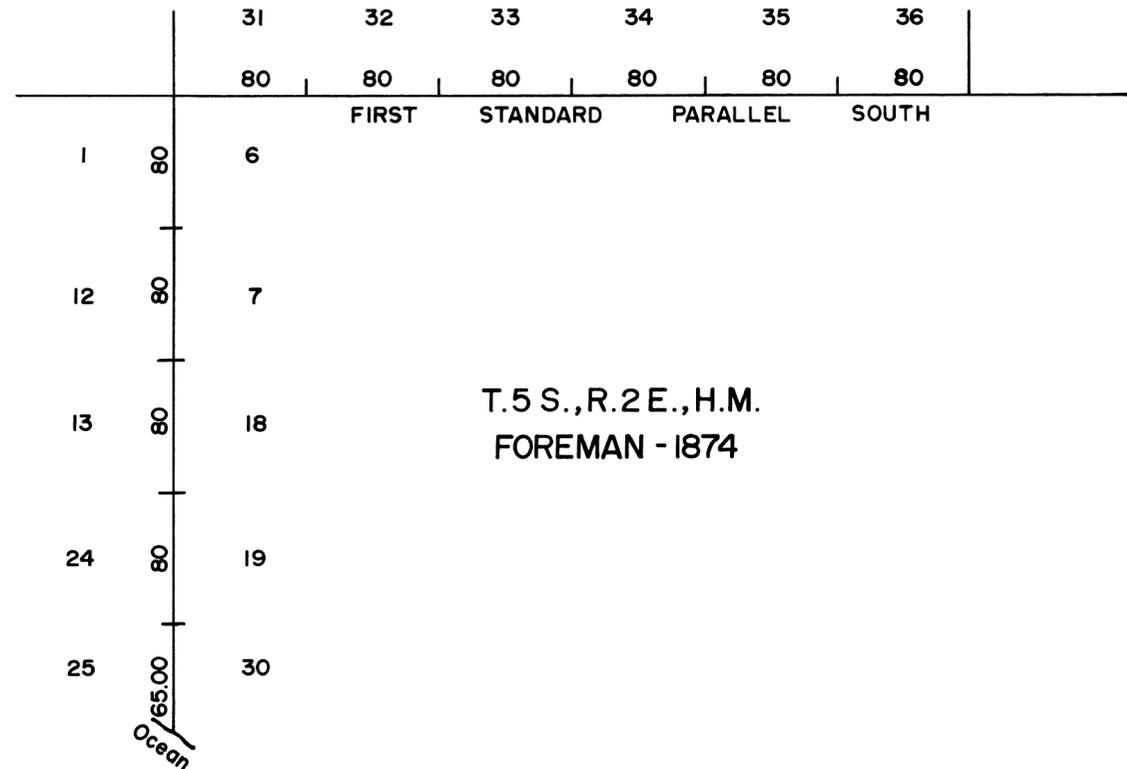


Figure 1 - Sketch of 1874 Foreman Record

Reasons for the Request of this Survey

The Bureau of Land Management received several letters of inquiry from private owners in both townships requesting an investigation and resolution of the complex survey situation. Initial investigation was made in 1951 and revealed the history as already outlined in History of Surveys. Timber was being logged in the overlap area by private loggers, allegedly in trespass on both

privately owned land and on public lands. The land ownership status is indicated by figure 8.

Further investigations were made in 1952 during which most of the existing original corners, many of the Shaw corners, and most of the recent private survey corners were found and correlated.

In 1954-55 logging activities in section 30, T. 5 S., R. 2 E., H.M., were suspected of being in trespass on public lands. On April 25, 1955, the State Supervisor (Director) requested a resurvey to resolve the dispute and mark the boundaries of the public lands.

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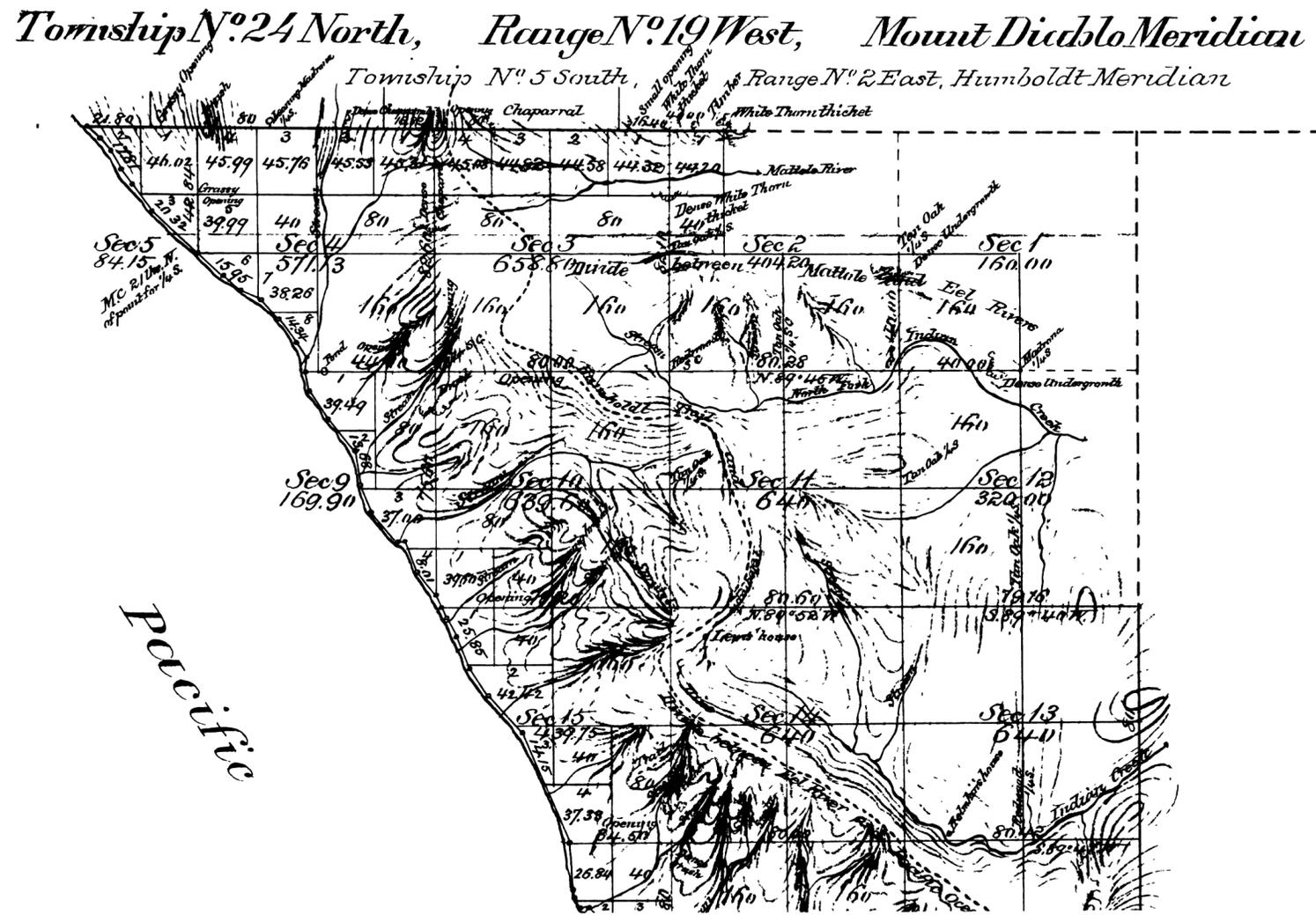


Figure 2 - Portion of the Perrin Plat

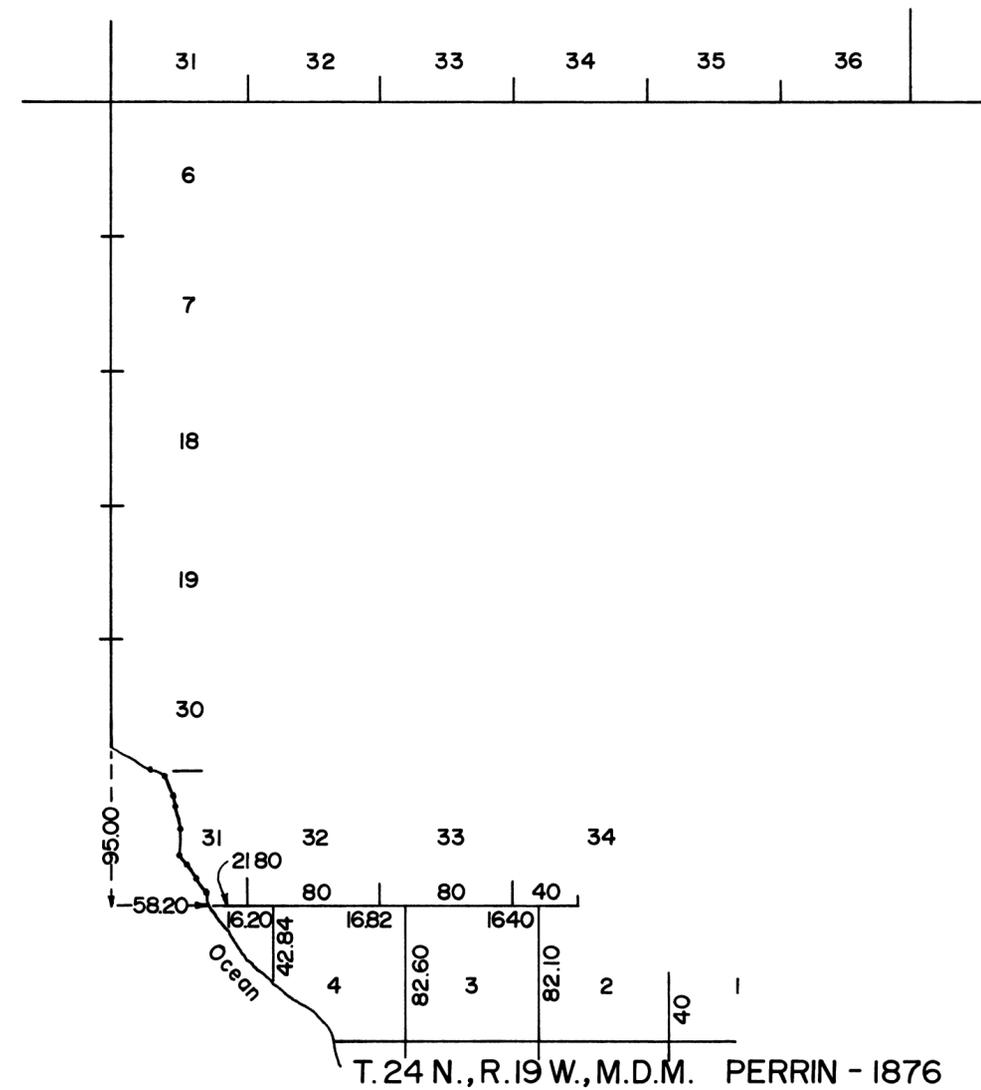


Figure 2a - Sketch of 1876 Perrin Record

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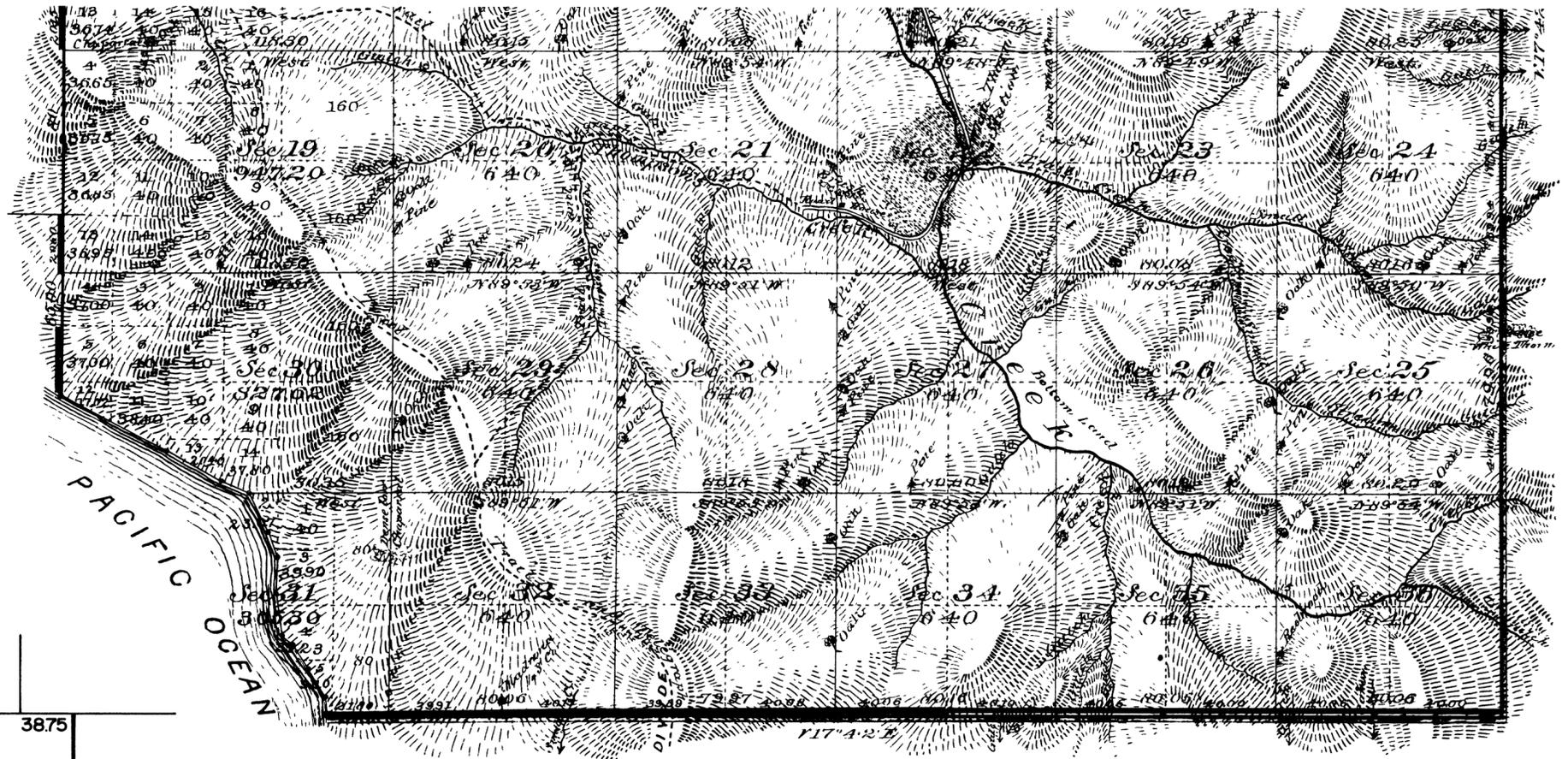


Figure 4 - Portion of Foreman Plat

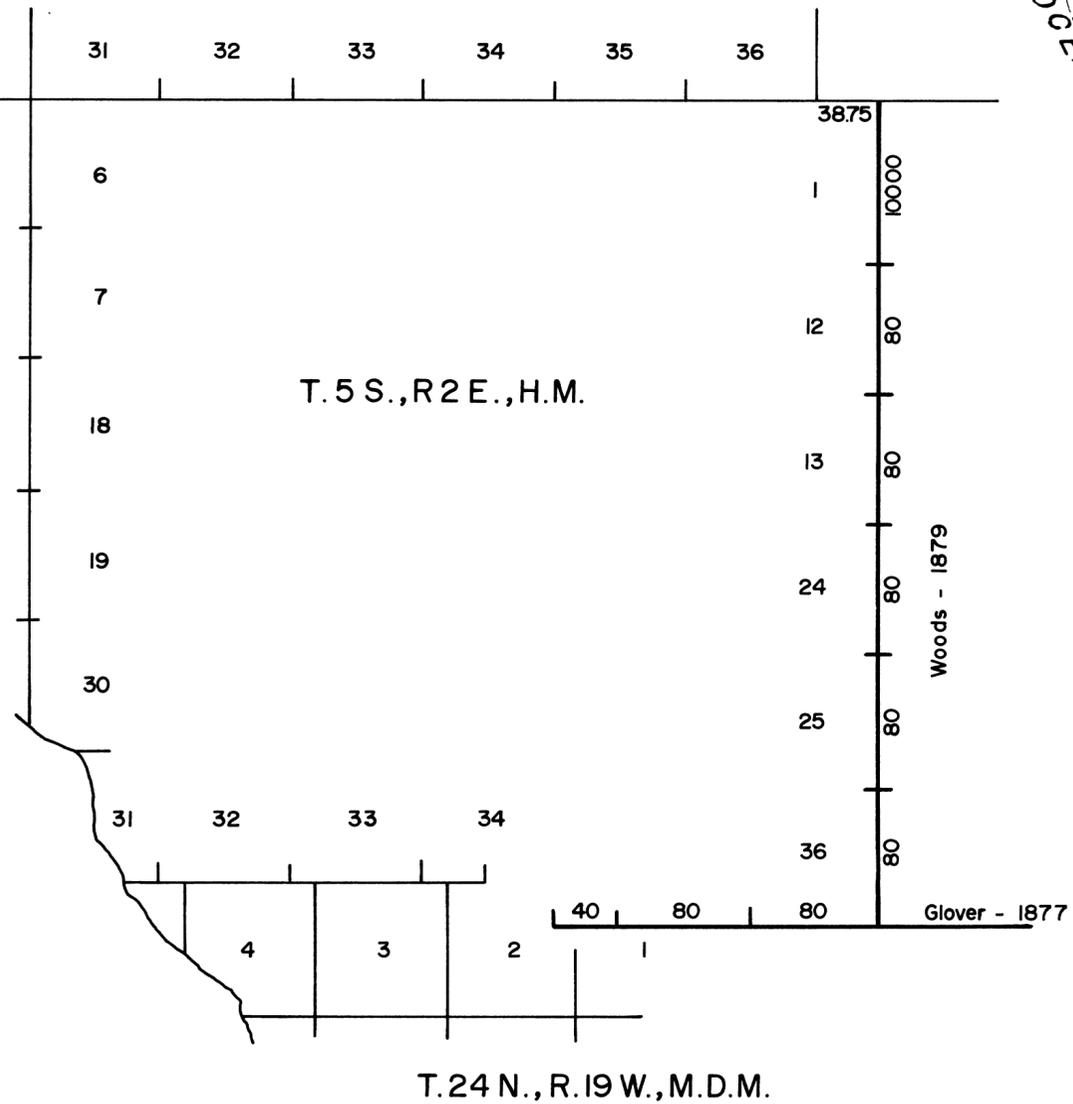
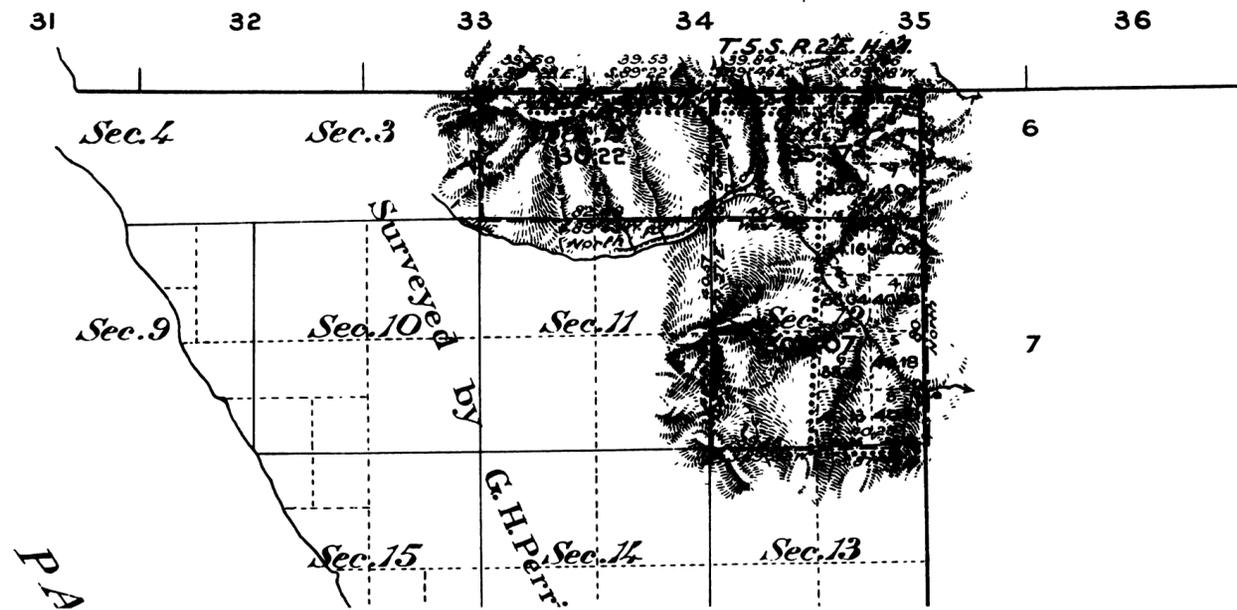


Figure 3 - Sketch of Glover and Wood Record

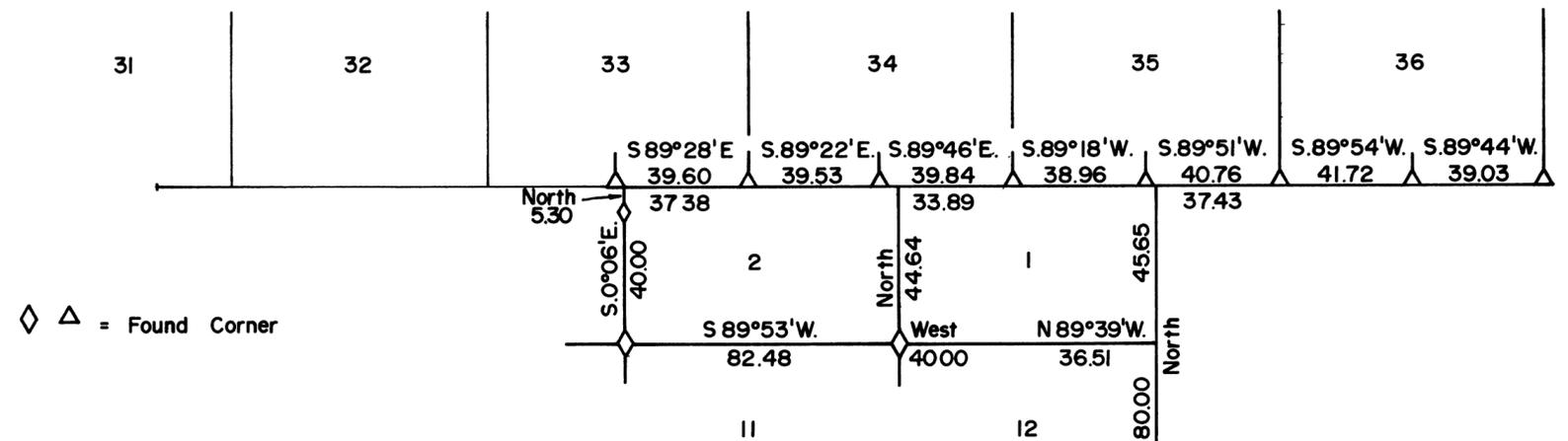
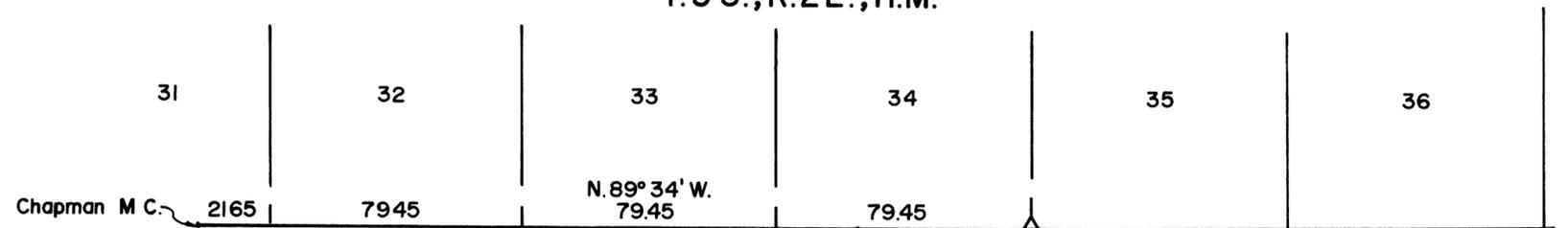
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Township N°24 North, Range N°19 West, Mount Diablo Meridian, California.



CHANDLER - MAY 10, 1902

T.5 S., R.2 E., H.M.



ALFRED BANNISTER - MAY & JUNE, 1902

T.24 N., R.19 W., M.D.M.

Figure 6a - Sketch of Chandler and Bannister Record

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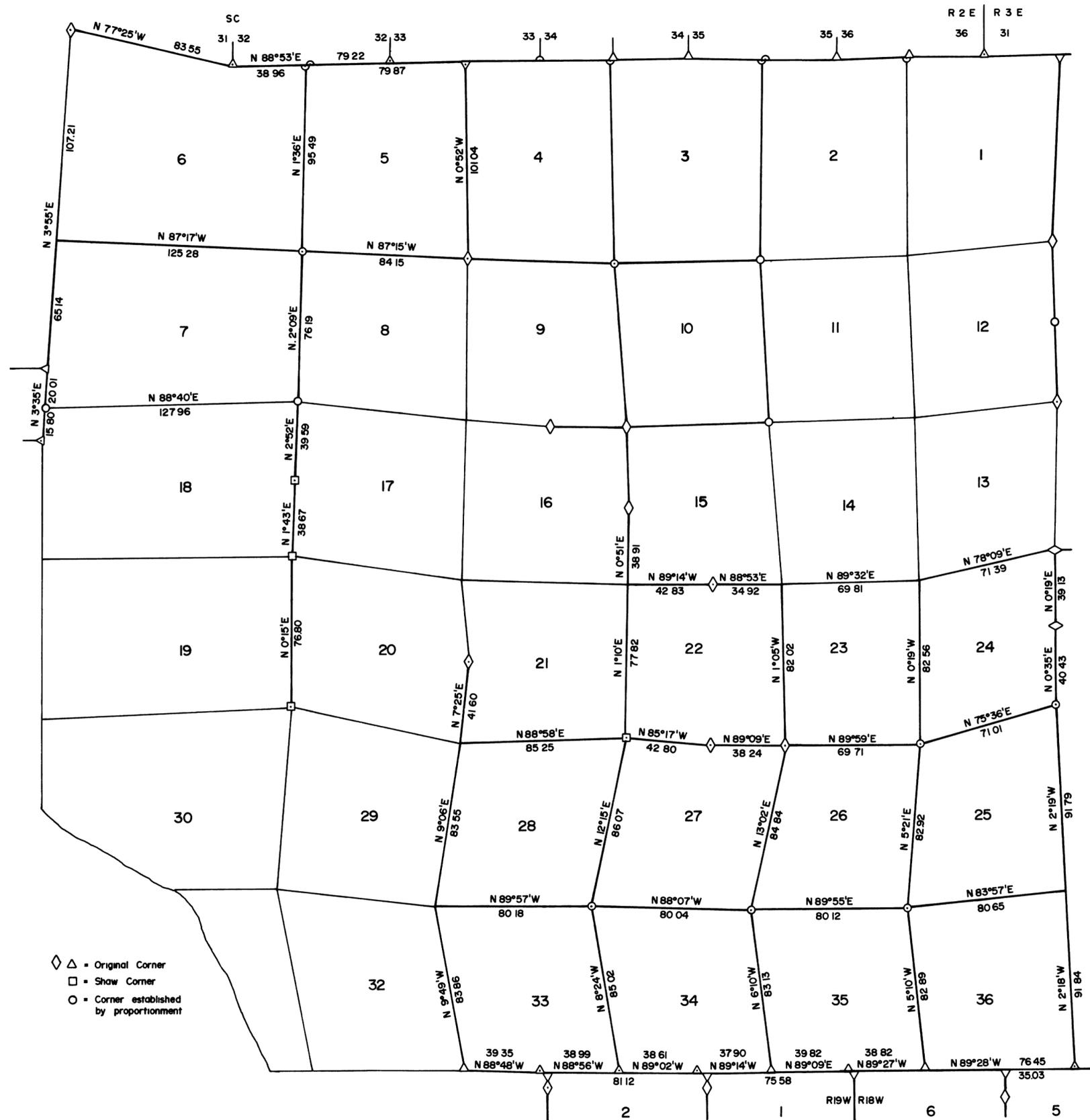


Figure 7 - Sketch of Private Surveys

HUMBOLDT & M.D.M. OVERLAP

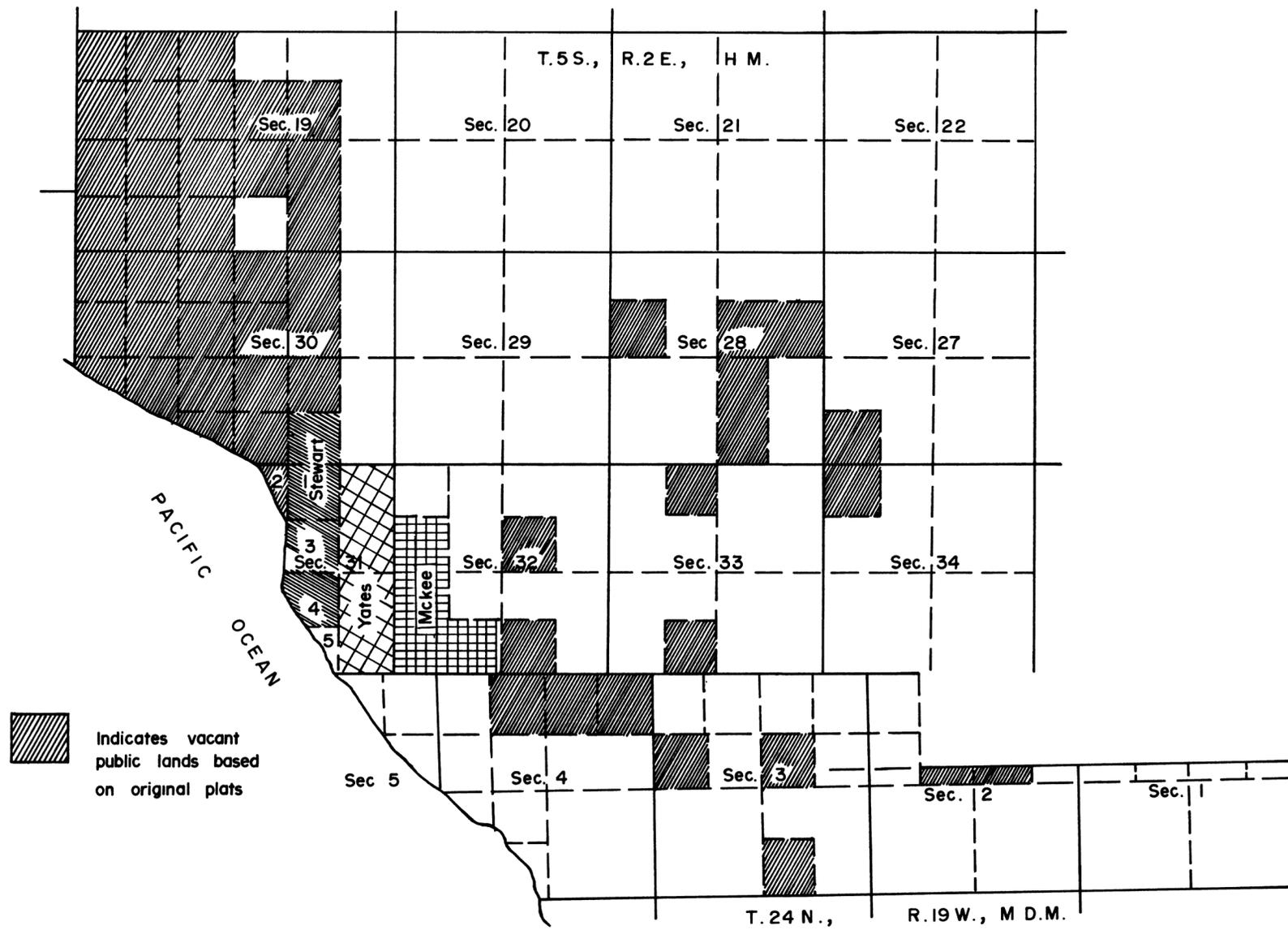


Figure 8 - Ownership Status

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Special Instructions

Special Instructions for Group 388, California, were prepared on June 13, 1956. They provided for the dependent resurvey of sections 19, and 28 thru 33, T. 5 S., R. 2 E., H.M., and sections 2 thru 5, T. 24 N., R. 19 W., M.D.M. The lines of these sections were to be resurveyed and the areas in conflict and overlap determined. The work under the Special Instructions was assigned to a surveyor on July 6, 1956, with all results of the previous investigations furnished.

Conditions Found on the Ground

Figure 9 indicates the corner recovery and approximate relative positions after all retracements and investigations were completed. Search of available records, local inquiry and the retracement data revealed the following facts:

- a) Perrin's field notes state that after meandering southeasterly along the ocean and setting his meander corner for the south boundary of T. 5 S., R. 2 E., that he ascended a steep rocky slide and set his corner of sections 31 and 32 at 21.80 chains, a post in a mound of stone. Going east on his south boundary of section 32 he ascended the steep slide, at 4.00 chains - top of slide and enter grassy opening, at 18.00 chains ridge bears NW and SE, at 19.00 chains - enter brush, at 26.00 chains, enter timber, at 40.00 chains, marked a leaning madrone for 1/4 section corner with two bearing trees, at 64.40 chains, stream in deep gulch, (Whale Gulch) course south, at 66.00 chains - enter dense chaparral, at 80.00 chains - set post in mound of stone for corner of sections 32 and 33.

In comparison the retracements east from the found corner for sections 31 and 32 (described by Rice and Shaw) found the following; Ascend SW slope of slide, at 4.00 chains - top of slide on spur, slopes south, enter timber, at 7.20 chains, ravine, course S. at 17.60 chains - Chemise Ridge, at 43.00 chains - Whale Gulch, course S. 10° E.

- b) Except for the west 18 chains, none of the topography called by Perrin along the south boundary of sections 32, 33 and 34 vaguely resembles actual ground conditions.
- c) The alleged Perrin corner of sections 31 and 32 is very nearly 290 chains south and 83 chains east of the positively identified Foreman 1/4 corner of section 13. The Perrin record indicates it to be 280 chains south and 80 chains east of that 1/4 section corner.
- d) The alleged Perrin corner of sections 31 and 32 is 75 chains north and 93.73 chains west of the positively identified Perrin corner of sections 3, 4, 9 and 10. The Perrin record indicates it to be 82.60 chains north and 96.82 chains west.
- e) On November 24, 1888, patent was issued to Frank H. McKee for the W1/4SW1/4, SE1/4SW1/4, and SW1/4NW1/4, section 32. On February 16, 1891, patent was issued to James S. Yates for the E1/4NE1/4, E1/4SE1/4, section 31.
- f) On September 7, 1892, James S. Yates and Frank H. McKee signed sworn affidavits in which they state that they set the redwood

stake at the (found) corner of sections 31 and 32, in 1883, as authorized by S.W. Foreman; 16.20 chains west of the closing corner of sections 4 and 5, and 21.80 chains east of the shore of the Pacific Ocean. That in 1883, the stake was standing in an open prairie. The stake was standing on a bluff slide to the ocean. The affidavit describes the two bearing trees, reported by Sam Rice in 1891 and by J.A. Shaw in 1892. The wording and text of the affidavits imply that Yates and McKee were working for Foreman in 1883.

- g) Foreman's field notes list "A. McKee" as a chainman. The name James S. Yates is not listed as a member of Foreman's crew at all.
- h) E.M. McKee, son of Frank H. McKee has lived in the vicinity of T. 5 S., R. 2 E., for many years. When interviewed, E.M. McKee stated that his father had worked for S.W. Foreman and had related his activities over the years before his death: Foreman began his subdivisions in T. 5 S., R. 2 E. at a corner on the north boundary, traversed southerly along the Mattole River, setting some corners adjacent to the traverse until he reached Thompson Creek in section 22. He then traversed along a trail up Thompson Creek and tied into a corner somewhere along the west boundary of the township. Frank H. McKee told his son that he had set the corner of sections 31 and 32 while working for S.W. Foreman.
- i) C.C. Taylor's map of his 1892 survey shows the corner of sections 31 and 32, with the notation: "Cor ested by McKee not legal." Taylor did not accept the corner.
- j) J.A. Shaw accepted the corner of sections 31 and 32 based upon McKee and Yates affidavits and used it to restore the south boundary of T. 5 S., R. 2 E., and restore corners within that township as shown in figure 5. The Shaw corners (and original Foreman corners found by Shaw) in the north four tiers of sections have been honored and used to control property boundaries by most private land owners since 1892.
- k) The 1891 Rice meanders of the ocean and 1892 Shaw meanders were faithfully and accurately made. The shoreline is still in very nearly the same configuration. The 1906 earthquake shook the loose surface soil into the ocean leaving very steep bluff slopes, now impossible to climb, but Shaw and Rice both climbed them in 1891 and 1892. The Perrin meanders of 1876 conform very nearly with the actual shoreline in T. 24 N., R. 19 W. They conform for a short distance northwesterly from a point 22 chains west of found corner of sections 31 and 32, but then depart inland and up along the bluffs. Perrin could not have meandered the Ocean shore as he said he did in front of sections 30 and 31. The Foreman meanders along the ocean are entirely fictitious.
- l) Perrin's calls of topography on his lines between sections 1 and 2, 2 and 3, 3 and 4 agree quite well with actual ground conditions. Perrin must have actually surveyed those lines, at least for most of their length, but did not close against a south boundary of T. 5 S., R. 2 E., for that line was surely fictitious, except the west half mile.

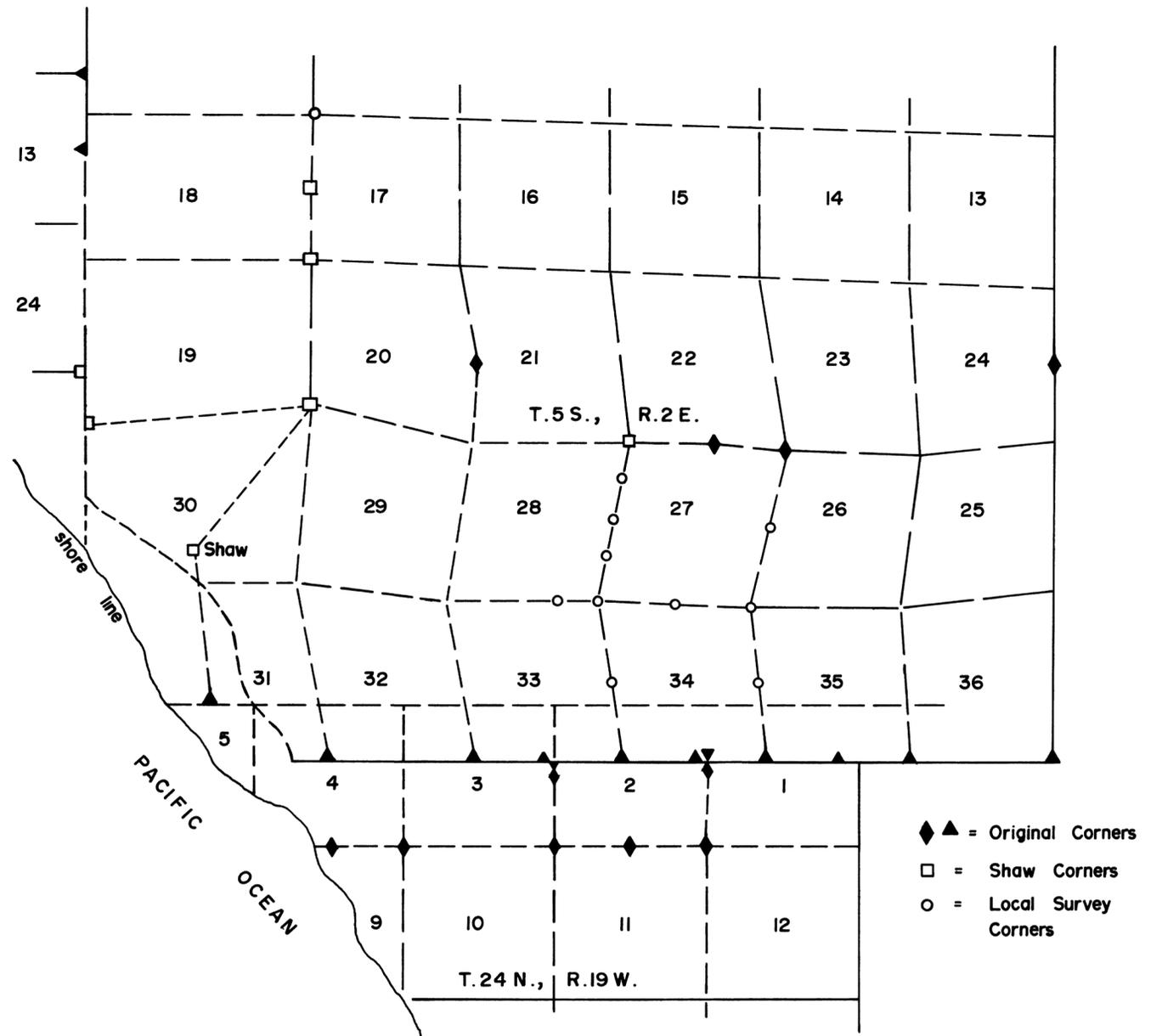


Figure 9 - Corner Recovery

- m) Glover's tie to the Perrin 1/4 corner of section 34 had to be fictitious. The Foreman retracements of the record Glover and Perrin south boundary of T. 5 S., R. 2 E. had to be fictitious.
- n) Perrin must have made a tie between the Foreman 1/4 corner of section 13 and his (Perrin's) work in T. 24 N., R. 19 W. The Perrin corner of sections 3, 4, 9 and 10 is 364.91 chains south and 176.40 chains east of the Foreman 1/4 corner of section 13; compared to the record of 362.60 chains south and 176.82 chains east. These relationships are close to record; the positions cannot reasonably be said fortuitous. The U.S.C & G.S. triangulation stations along Chemise Ridge and on Chemise Mountain were established in 1872 and 1873. It is possible that Perrin tied the Foreman 1/4 corner of section 13 to station "Chemise Mountain" and also tied one of his corners in T. 24 N.,

R. 19 W. to a triangulation station. He could have then computed the theoretical distances between sections 2 and 3, 3 and 4, 4 and 5, ran north between those sections and set "closing corners" at computed distances. He could have run west from his "closing corner" of sections 4 and 5, a computed distance of 16.20 chains to establish the corner of sections 31 and 32. Having run that portion of the line, he could, and did accurately describe it.

- o) No patents have ever been issued nor any areas ever returned based on the Perrin survey of the south boundary of T. 5 S., R. 2 E. All areas and patents in that township are based on the Foreman plat. The Foreman plat places the south boundary of T. 5 S., R. 2 E. along the alignment surveyed by Glover and extended by Chandler. All areas in T. 24 N., R. 19 W. are based on the Perrin and Bannister plats.

- p) The recent resurveys by private surveyors in T. 5 S., R. 2 E., are based on a latitudinal proportionate measurement position between the Glover-Chandler line and the recovered Foreman and Shaw corners two miles (or more) to the north. The longitudinal position was determined at the Foreman record distance from the east boundary. So far as they have been executed, these private surveys were in conformance with the Washington Office memorandum to Oscar Larson, and have been accepted by the private property owners affected by them. The retracements revealed minor technical errors in private surveys but no procedural errors.
- q) Logging, bark strippers and repeated fires have destroyed many of the Shaw corners as well as the closing corner of sections 2 and 3, reported by Taylor and Shaw in 1892.

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Preliminary Statement of the Problem

The surveyor must make a report of his findings, based on the evidence and ground conditions, recommending a procedure for re-surveying and monumenting the corners of the remaining public lands within sections 19, and 28 thru 33, T. 5 S., R. 2 E., H.M., and sections 2 thru 5, T. 24 N., R. 19 W., M.D.M.

Regulations

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

- 5-1 to 5-38, Restoration of lost or obliterated corners
- 5-40 to 5-47
- 6-1 to 6-32 Dependent resurveys
- 7-4 to 7-15 Special surveys

Particular attention is called to sections: 5-1 to 5-3, 5-10, 5-13, 5-35, 5-46, 6-16, 6-28, 7-5 and 7-11.

Legal Constraints

The Bureau of Land Management has no authority to "correct" an original survey once the plat(s) have been approved and lands patented based on the approved plat(s). As pointed out in section 5-13 of the Manual, the surveyor cannot make legal or judicial decisions. He can only execute a resurvey based on the evidence and not decide the equities of the results.

Final Statement of the Problem

How should the surveys shown on the Perrin and Foreman plats be restored and how are the remaining public lands within the overlap area to be identified?

Solution

The Chandler south boundary of T. 5 S., R. 2 E. was resurveyed based on the Chandler record. The terminal meander corner of section 31 was restored at the Chandler record bearing and distance from the recovered corner of sections 31 and 32. This point fell on top of the ridge about 21 chains east of the actual shore of the Pacific Ocean. The east 1/16 corner of section 32 and west 1/16 corner of section 33 were established.

The west boundary was resurveyed on the Foreman record, due south from the recovered east 1/4 corner of section 13 with all corners and closing corners restored at record distance. The terminal meander corner fell near the top of a ridge, about 25 chains north of the actual shore of the ocean.

The 1892 Shaw corners of sections 17, 18, 19 and 20; 19, 20, 29 and 30; and 21, 22, 27 and 28 had been accepted by the private surveyors and were therefore accepted as the best evidence of the position of the original corners. The original Foreman 1/4 corner of sections 20 and 21 controlled latitudinal proportions along the fourth meridional line. The Shaw corner of sections 29, 30, 31 and 32 was rejected. The private survey corners between sections 33 and 34, 27 and 28, were accepted, having been properly restored.

The corner of sections 28, 29, 32 and 33 and corner of sections 29, 30, 31 and 32 were restored by three point control in accordance with the Manual of Surveying Instructions, Section 5-29, at the record distance in departure counting from the accepted corner of sections 27, 28, 33 and 34.

The terminal meander corner between sections 30 and 31 was restored at record bearing and distance west of the restored corner of sections 29, 30, 31 and 32.

The corner of sections 20, 21, 28 and 29 was restored at double proportionate distances.

All remaining 1/4 section corners and necessary 1/16 section corners were restored or established at single proportionate positions.

The Foreman record meanders were adjusted by the broken boundary (compass rule) method between restored meander corners.

Sections 30, 32 and 33 were initially subdivided normally as though no overlap existed.

In T. 24 N., R. 19 W., sections 3, 4, 5 and the part of section 2 lying south of the Chandler-Bannister line were dependently resurveyed based on the Perrin survey and Bannister resurvey.

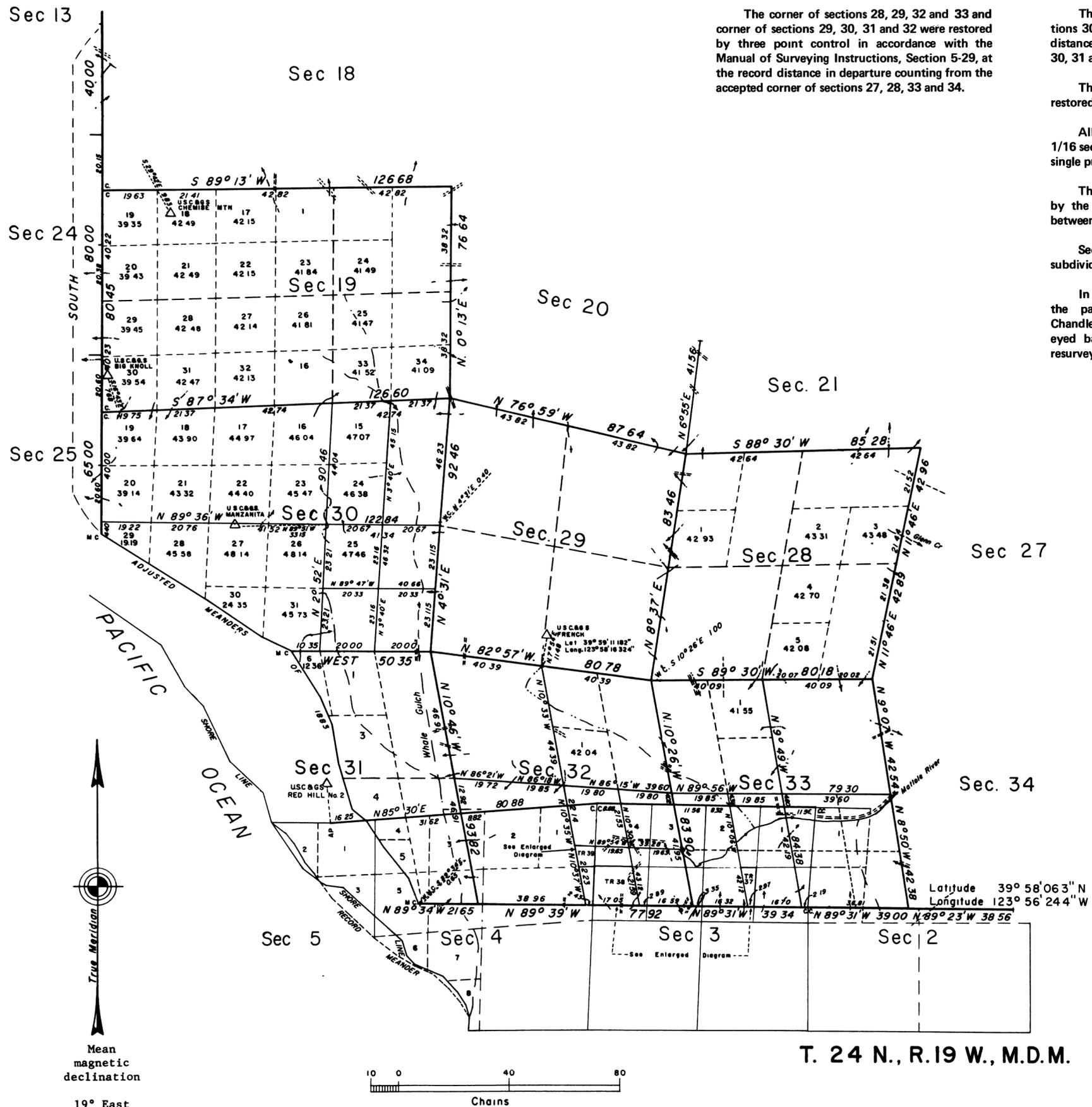


Figure 10 - Portion of Accepted Plat, T. 5 S., R. W. E., H.M., California.

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The found (Perrin) corner of sections 31 and 32 was accepted. Rice and Shaw had accepted it in 1892. The McKee and Yates affidavits testified to how the point was restored and the bearing trees became marked and recorded. The topography adjacent to the corner fits the Perrin description. The preponderance of these factors and the relationship of the point to indisputably identified Perrin corners made acceptance of the corner mandatory.

Since no areas in T. 5 S., R. 2 E. were ever based on the Perrin corner of sections 31 and 32, it did not control anything in that township, therefore it was remonumented and marked as an angle point controlling the north boundary of T. 24 N., R. 19 W.

The closing corner of sections 3 and 4 was restored by two point control (Manual, Section 5-29) record distance in departure east of the angle point and record distance in latitude north of the recovered corner of sections 3, 4, 9 and 10.

The closing corner of sections 2 and 3 was also restored by two point control, record distance in latitude north of the recovered 1/4 corner of sections 2 and 3.

The closing corner of sections 4 and 5 was restored at single proportionate distance.

The north 1/4 corner of section 4, north 1/4 corner of section 3, and the east and west 1/16 section corners on the north boundary of section 3 were established at midpoint positions between restored closing corners.

The terminal meander corner on the north boundary of section 5 was restored at record bearing and distance from the angle point. The point fell on the face of a bluff and could not be monumented.

The Bannister closing corner of sections 1 and 2 was recovered 10 links north of the Chandler south boundary of T. 5 S., R. 2 E. The true point of intersection was monumented.

The 1/4 corner of sections 3 and 10 and 1/4 corner of sections 3 and 4 were restored at single proportionate distances.

The meander corner of sections 4 and 9 was restored at record bearing and distance west of the recovered 1/4 corner of sections 4 and 9.

The line between sections 4 and 5 was resurveyed on record bearing due south from the restored closing corner of sections 4 and 5, and terminated at the actual shoreline of the ocean. Record distance fell out in the ocean.

The north 1/16 corners between sections 2 and 3, and sections 3 and 4 were established at record distances in latitude.

Section 3 was subdivided by surveying the centerlines, and centerlines of the northeast and northwest quarters.

During the resurveys and surveys in T. 24 N., R. 19 W., all intersections of lines conflicting with T. 5 S., R. 2 E. were determined.

All of the vacant lots 2 and 3, section 4 had been patented to McKee, Yates and others in T. 5 S., R. 2 E.

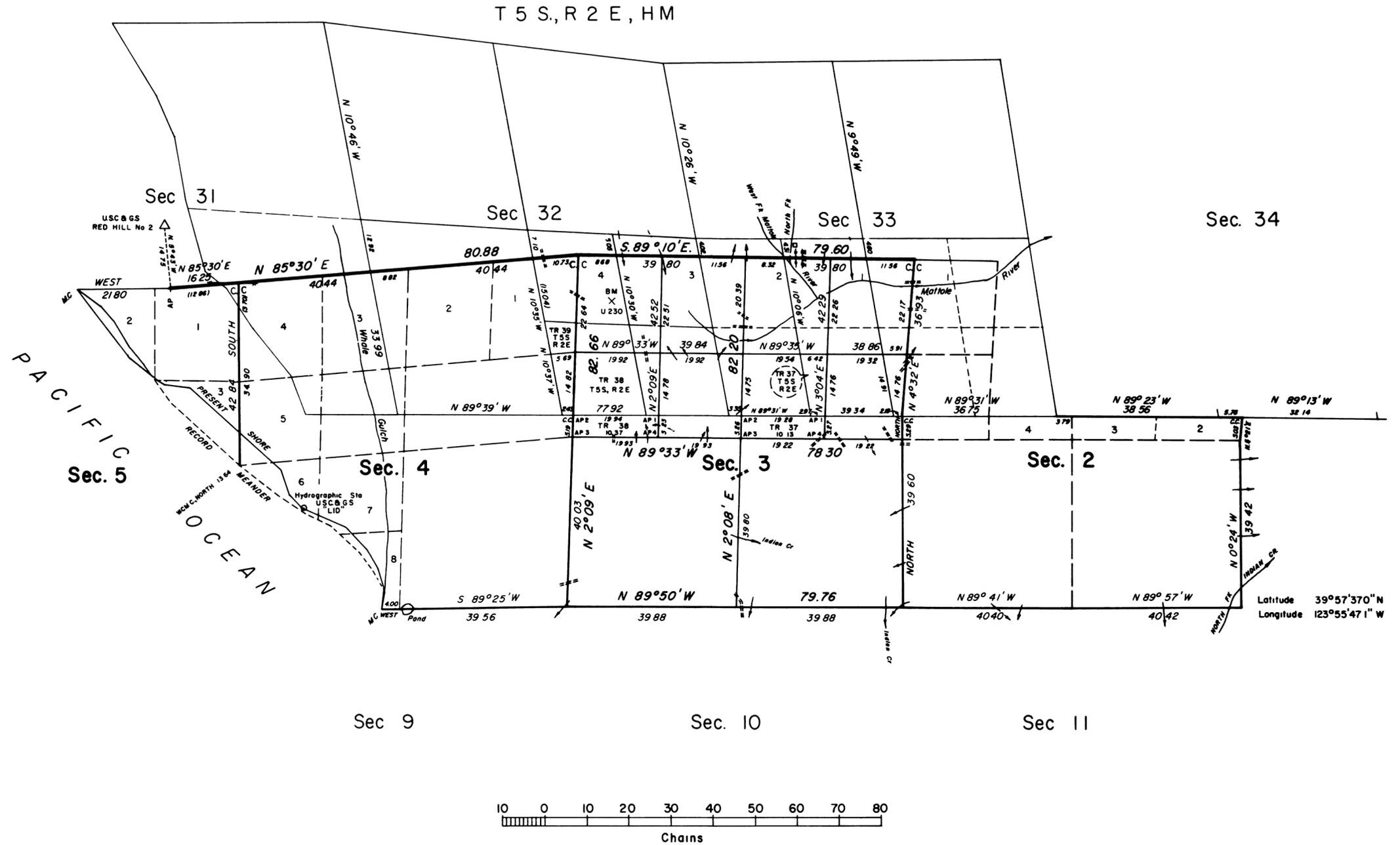
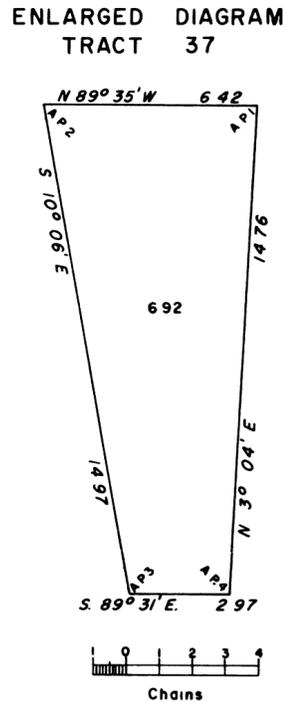
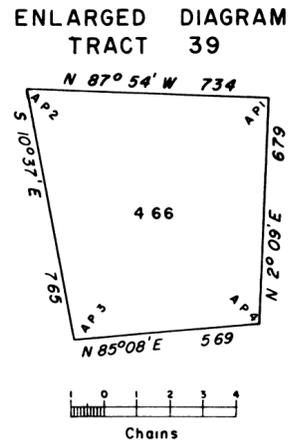
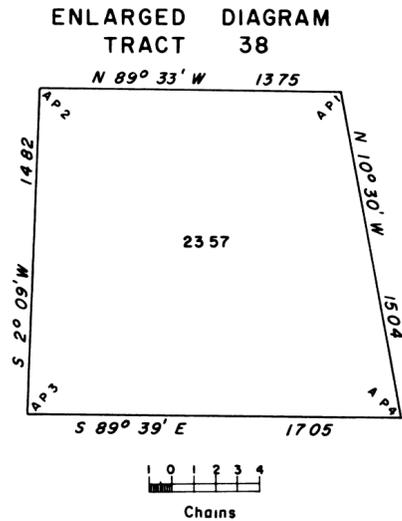


Figure 11 - Portion of Accepted Plat, T. 24 N., R. 19 W., M.D.M., California.

HUMBOLDT & M.D.M. OVERLAP



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

This plat represents a dependent resurvey of portions of the south and west boundaries, a portion of the subdivisional lines and the record meanders of the shore of the Pacific Ocean through sections 30 and 31, designed to restore the corners in their true original locations according to the best available evidence, and the survey of the subdivision of sections 30, 32, 33, the survey of Tract 37 in section 33 and Tracts 38 and 39 in section 32, and remonumentation of two corners of section 9, T. 5 S., R. 2 E., Humboldt Meridian, California.

Figure 11a Portion of Accepted Plat,
T. 24 N., R. 19 W., M.D.M., California.

Part of vacant lot 1, section 4, overlapped part of the vacant SW $\frac{1}{4}$ SE $\frac{1}{4}$, section 32. This parcel was surveyed and designated Tract 39, T. 5 S., R. 2 E.

Part of the vacant SW $\frac{1}{4}$ NW $\frac{1}{4}$, section 3, overlapped part of the vacant SW $\frac{1}{4}$ SE $\frac{1}{4}$, section 32. This parcel was surveyed and designated Tract 38, T. 5 S., R. 2 E.

The part of the vacant SW $\frac{1}{4}$ NW $\frac{1}{4}$, section 3, lying south of the Chandler line was surveyed and designated Tract 38, T. 24 N., R. 19 W.

The remainder of the vacant SW $\frac{1}{4}$ NW $\frac{1}{4}$ section 3, had been patented in the E $\frac{1}{2}$ SE $\frac{1}{4}$, section 32.

Part of the vacant SE $\frac{1}{4}$ SW $\frac{1}{4}$, section 33, overlapped the vacant SW $\frac{1}{4}$ NE $\frac{1}{4}$, section 3. This parcel was surveyed and designated Tract 37, T. 5 S., R. 2 E.

The remainder of the SE $\frac{1}{4}$ SW $\frac{1}{4}$, section 33, had been patented with lots 1 and 2, and the SE $\frac{1}{4}$ NE $\frac{1}{4}$, section 3.

The part of the vacant SW $\frac{1}{4}$ NE $\frac{1}{4}$, section 3, lying south of the Chandler line was surveyed and designated Tract 37, T. 24 N., R. 19 W.

The remainder of the vacant SW $\frac{1}{4}$ NE $\frac{1}{4}$, section 3, had been patented in the W $\frac{1}{2}$ SW $\frac{1}{4}$, section 33.

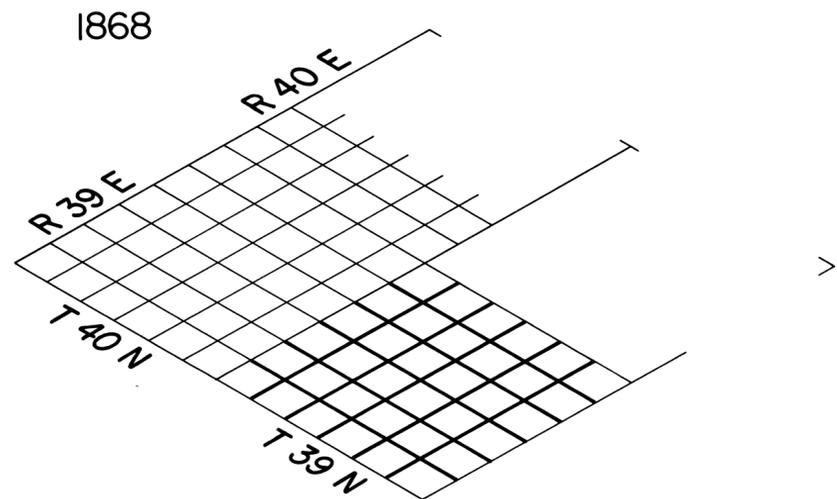
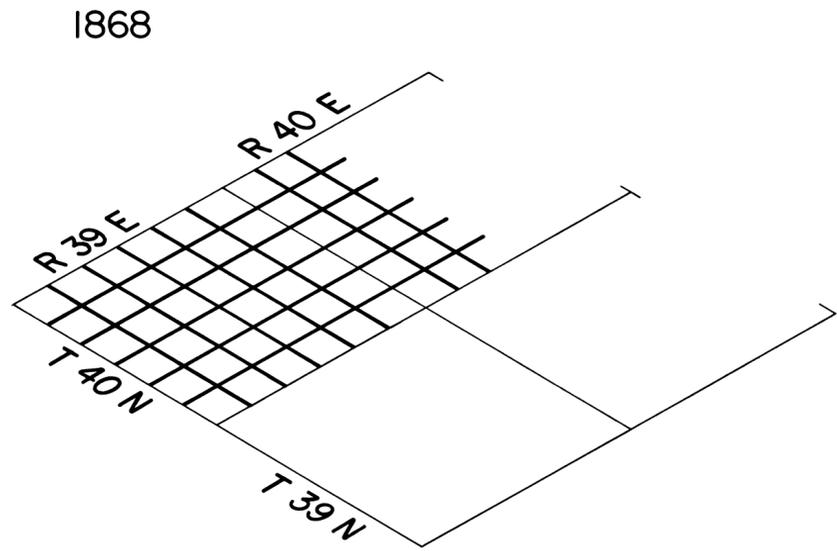
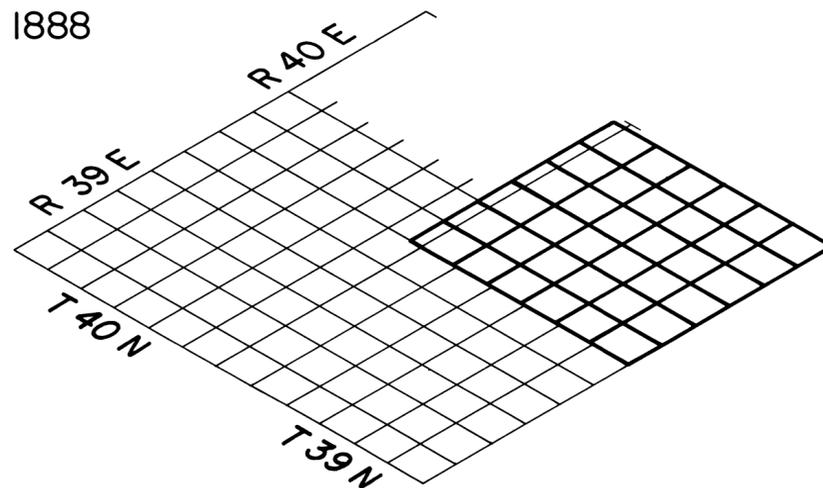
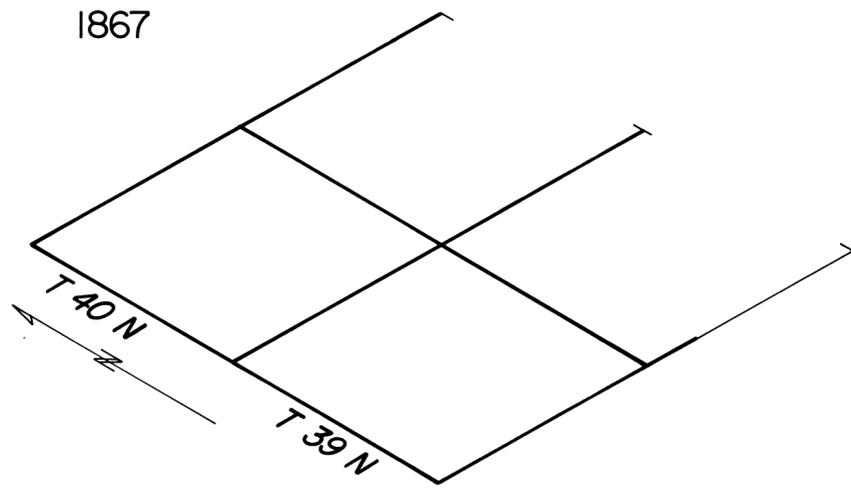
Direct ties were made to all triangulation stations within the area of the resurvey.

The plats were drafted showing the area of overlap and conflict. The plats were accepted on April 13, 1972 and are shown in figures 10 and 11.

Supplemental Topic

As indicated on the accepted plat of T. 5 S., R. 2 E., figure 10, a substantial area of unsurveyed land exists, lying between the adjusted Foreman meander line and the actual shore of the ocean. Even though it consists of steep slopes and bluffs, all but inaccessible, it is nevertheless public land and subject to survey.

MAXSON OVERLAP IN NEVADA



History of Surveys

- 1867 William Epler surveyed the west and north boundaries and west 1½ miles of the south boundary of T. 39 N., R. 40 E. Under the same contract Epler also surveyed the exterior boundaries of Tps 39 and 40 N., R. 39 E., and the Eighth Standard Parallel North through Range 40 East
 - 1868 O.A. Palmer surveyed the subdivisional lines of T. 40 N., R. 39 E., and the west 2½ ranges of subdivisional lines in T. 40 N., R. 40 E. In the same year A.J. Hatch surveyed the subdivisional lines of T. 39 N., R. 39 E. These surveys were all based on Epler's township boundaries. The Palmer plat of T. 40 N., R. 40 E., is illustrated by figure 1
 - 1888 H.B. Maxson reportedly could not find Epler's corners along the north boundary and north 2 miles of the west boundary of T. 39 N., R. 40 E. Maxson surveyed the south and east boundaries of the township (without mention of Epler's corners along the west 1½ miles of the south boundary) and established his own corner for the northeast corner of the township. Maxson then reportedly began at the Epler corner of sections 7, 12, 13 and 18 on the west boundary, (which he reported as being at a fence corner) and independently resurveyed the north 2 miles of the west boundary and all of the north boundary. He then surveyed the subdivisional lines of the township. The Maxson plat of T. 39 N., R. 40 E., is illustrated by figure 2.
- Maxson also surveyed the boundaries and subdivisional lines of T. 39 N., R. 41 E., in 1888.
- 1962 T. 40 N., R. 39 E., was partially dependently resurveyed under Group 402, Nevada. The Epler corner of Tps. 39 and 40 N., Rs. 39 and 40 E., was recovered and remonumented.

Reasons for Request of this Survey

These surveys and resurveys were requested by the Winnemucca District Manager for administrative needs in connection with a range improvement project. The resurveys were also needed for control of Nevada protraction diagrams.

Special Instructions

Special Instructions for Group 421, Nevada, were issued on February 20, 1964. They provided for the dependent resurvey and survey of several townships, including the dependent resurvey of the north boundaries of T. 39 N., Rs. 40 and 41 E., and the survey of T. 40 N., R. 41 E. Field work began on May 11, 1964.

Conditions Found on the Ground

During the course of the retracements of the north boundary of T. 39 N., Rs. 40 and 41 E., two sets of corners were recovered for the north boundary of T. 39 N., R. 40 E. Maxson's northeast corner of the township was found about 8½ chains west and 12 chains north of the Epler corner. A total of 6 Maxson corners were eventually recovered and a total of 5 Epler corners, including Epler's NE and NW corners of the township and Maxson's NE corner of the township. The Maxson line was about 11 to 12 chains north of the Epler line, creating an overlap of surveys.

The east 3½ ranges of sections in T. 40 N., R. 40 E., were unsurveyed public domain. All of sections 32 and 33 were public domain but the south half of section 31 was patented, based on the Epler boundary and Palmer subdivisional lines of 1868. In T. 39 N., R. 40 E., both sections 5 and 6 were patented based on the Maxson plat. Sections 2 and 4 and the north half of sections 1 and 3 were vacant public domain.

Figure 3 illustrates the history of surveys, land status and corner recovery.

Preliminary Statement of the Problem

The surveyor must first verify that an overlap actually exists, and then recommend a procedure of survey to resolve the conflicts (overlap) between the Epler and Maxson surveys.

Regulations

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

- 5-35 Junior-Senior lines (final paragraph)
- 6-2 and 6-4 Resurveys
- 6-12 to 6-18 Bona fide rights of claimants
- 6-19 to 6-24 Reports of field investigations

Legal Constraints

Although this resurvey was executed earlier, it must be based upon the legal principles outlined in United States v. Macmillan, 331 F., Supp 435 (1971), a Nevada case which involved conflicting surveys executed by H.B. Maxson in 1893.

In that case the court stated that "We find the law to be that when two officially accepted surveys result in an overlap, the survey that is senior in time controls." The court also approvingly cited 50 CJ 914, "CONFLICTING SURVEYS. Of two overlapping surveys, the one first made has priority, particularly where the second is bounded with express reference to the first. An accepted survey covering lands in a particular township, has been regarded as controlling as against a subsequent conflicting survey which purports to cover land in another township."

See also 43 USCA 772, and cases cited.

MAXSON OVERLAP IN NEVADA

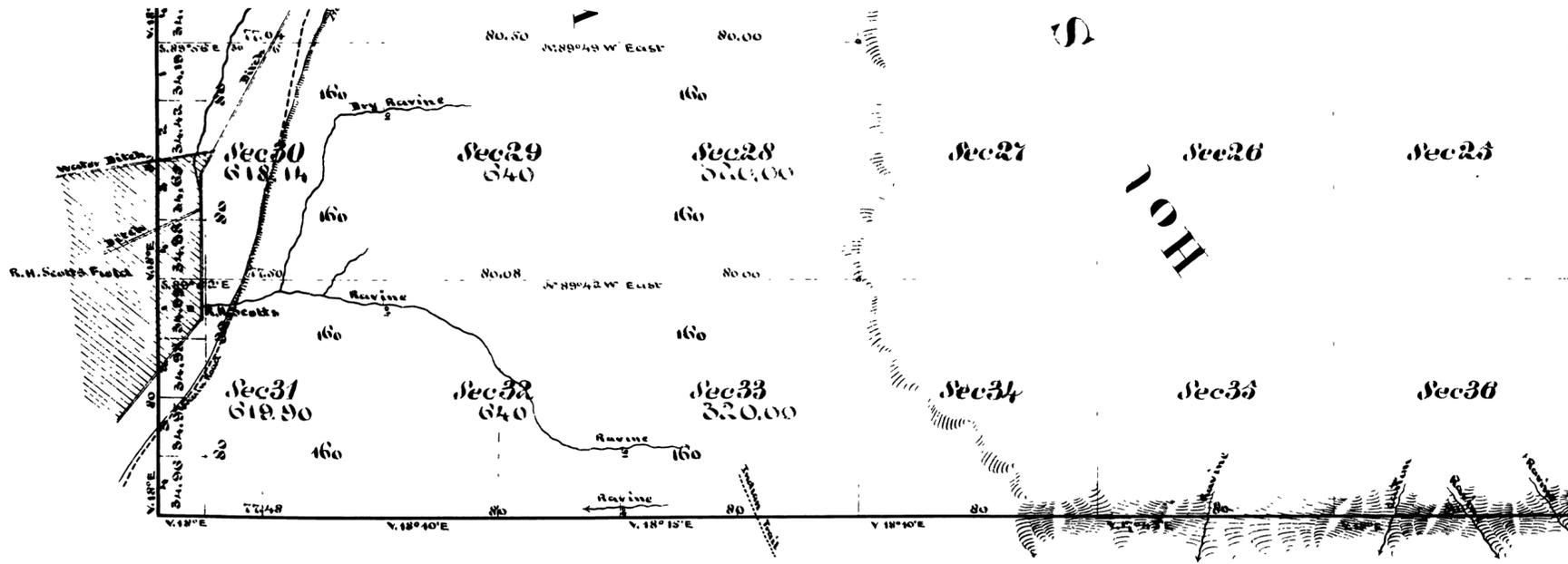


Figure 1 - Portion of Epler's and Palmer's Plat, 1868

Changes in Instructions

On May 27, 1965, Supplemental Special Instructions were issued under Group 421. They provided for the original survey of the easterly portion of T. 40 N., R. 40 E. Further Supplemental Special Instructions, dated July 12, 1966, provided for the dependent resurvey of section 32 in that township.

Special Instructions for Group 432, Nevada, were issued on November 5, 1965, providing for the dependent resurvey of the east five tiers of sections in T. 39 N., R. 40 E.

Final Statement of the Problem

The surveyor must positively identify the senior line by its remaining monuments and locate points for missing corners on both the junior and senior lines. The line which should be monumented is chosen according to the survey which created the lands which were patented first in time. The surveyor usually makes a decision on the procedure and makes a recommendation to his supervisor for final decision.

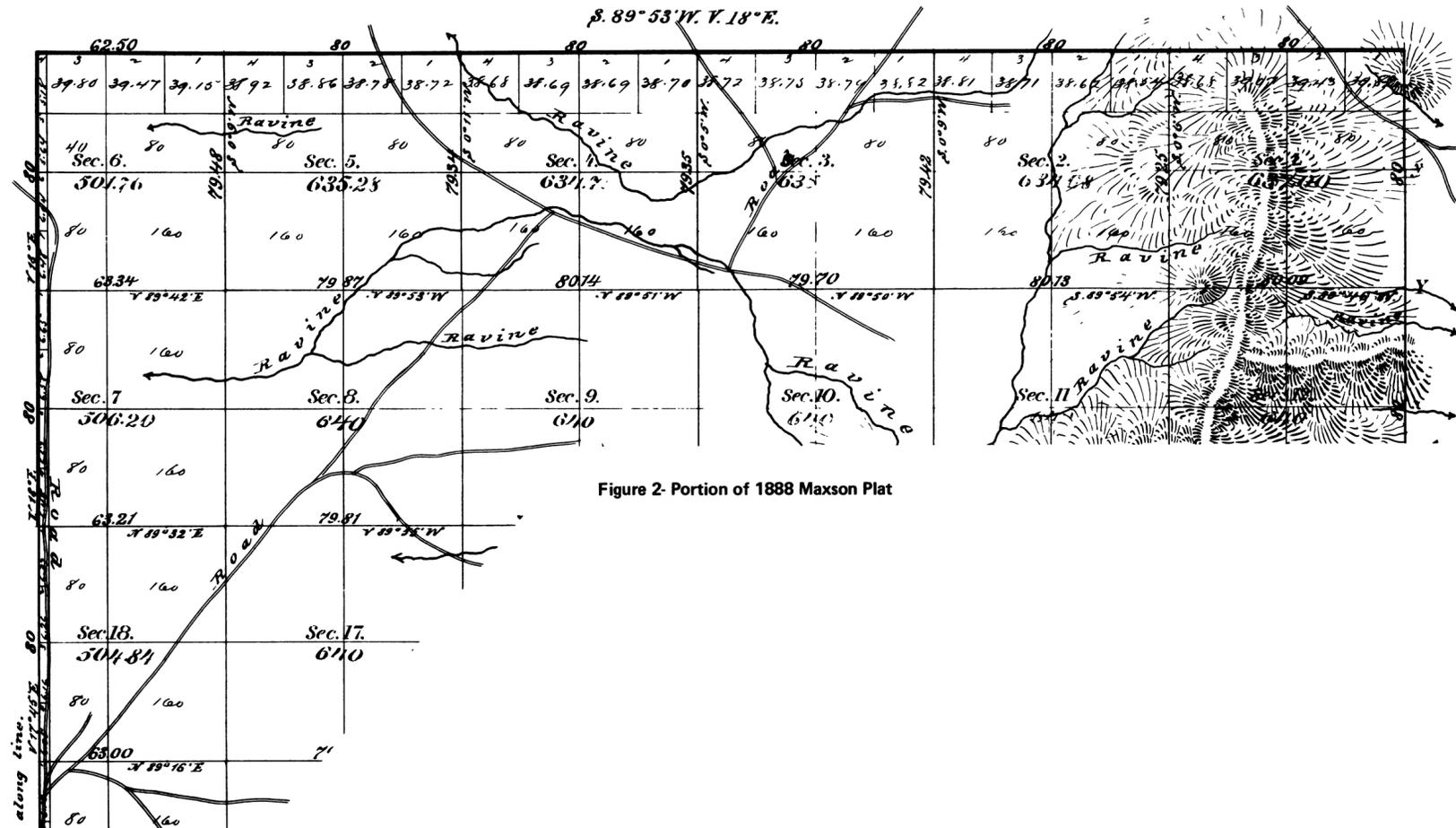


Figure 2 - Portion of 1888 Maxson Plat

MAXSON OVERLAP IN NEVADA

Solution

A full report of the situation, with diagrams, was made to the Washington Office with the recommendation that the Maxson (Junior) line be held as controlling the east 5 miles of the township line. The Maxson line would be closed against the east boundary of patented section 31.

The Washington Office directed that the Epler (Senior) line be resurveyed as the controlling line, the patented lands protected and overlap eliminated according to the plan illustrated by figure 4.

Epler's line between Tps. 39 and 40 N., R. 40 E., was therefore dependently resurveyed and all lost corners temporarily restored by single proportionate measurement. The Maxson line was resurveyed from the recovered Maxson corner of

Tps. 39 and 40 N., Rs. 40 and 41 E., to the recovered Maxson 1/4 section corner of sections 6 and 31. All lost Maxson corners were also temporarily restored by single proportionate measurement.

The north and west boundaries of T. 39 N., R. 41 E., were resurveyed and all lost corners restored and remonumented at single proportionate positions. Since sections 6 and 31 were both patented, nothing could be done by any BLM surveying procedure to correct the conflict between those two sections. Section 5 was patented based on the Maxson survey which overlapped the public lands in section 32. This conflict could be eliminated by holding the Maxson corners of section 5. No patented lands were in conflict in sections 1 thru 4 and the west half of section 33.

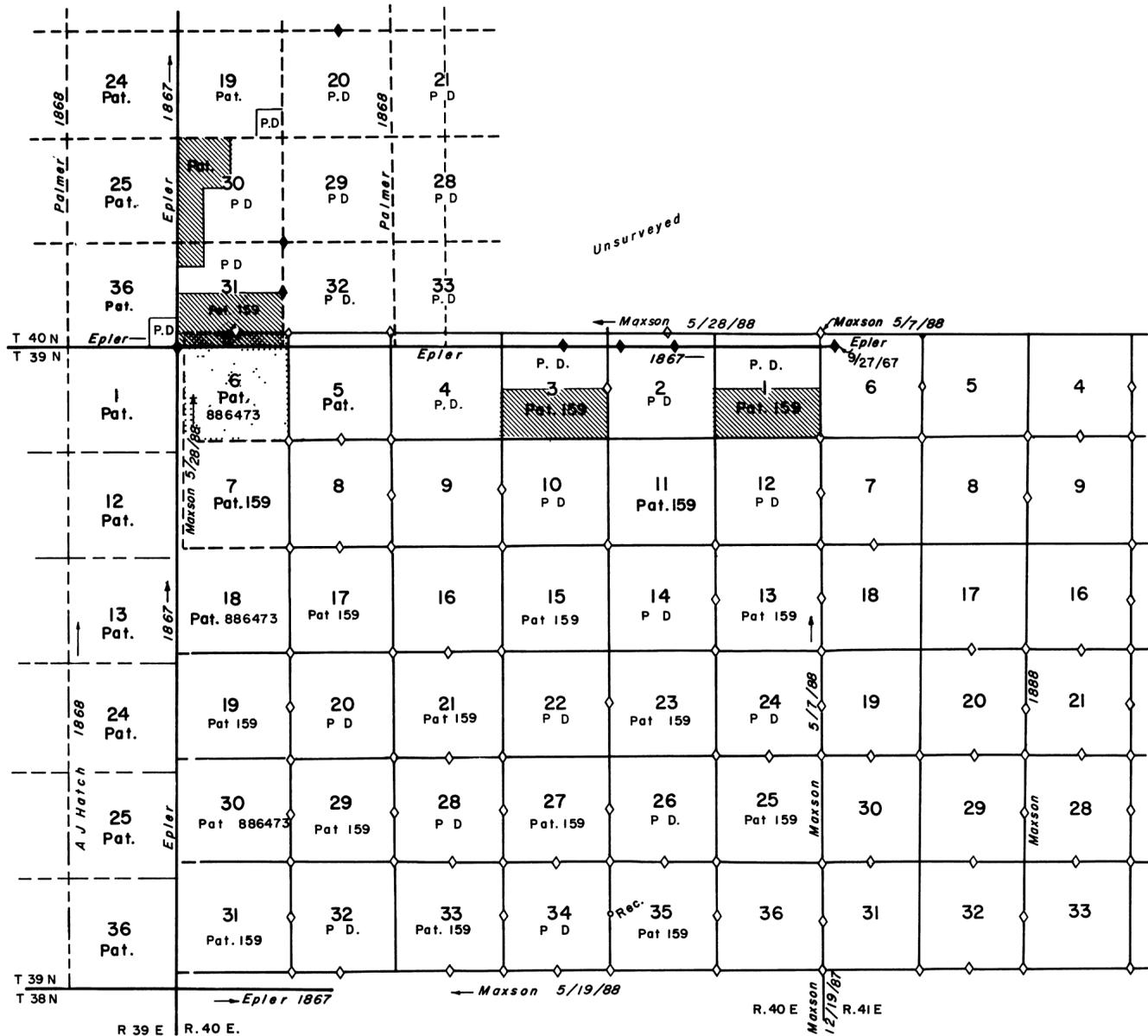


Figure 3 - Status and Corner Recovery

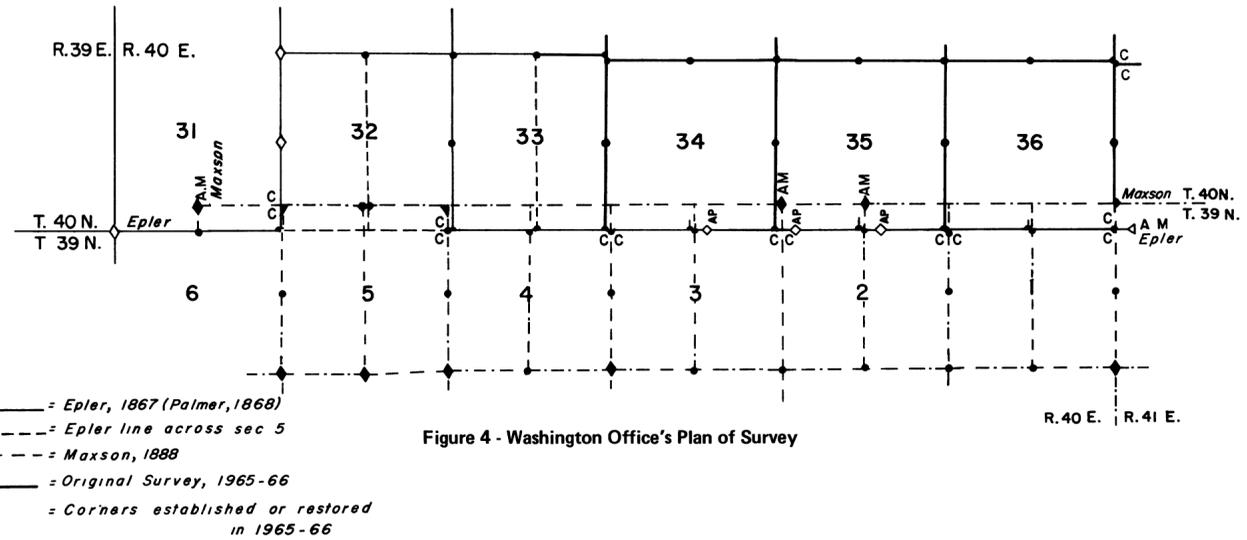


Figure 4 - Washington Office's Plan of Survey

As instructed, the Epler (Senior) line controlled the alinement of the south boundary of T. 40 N., R. 40 E., and the position of sections 31, 32 and 33, but the Maxson survey controlled patented section 5.

The Maxson corner of Tps. 39 and 40 N., Rs. 40 and 41 E., was converted to the corner of Tps. 39 and 40 N., R. 41 E., only. The Epler line was terminated with a closing corner at the intersection of the west boundary of section 6, T. 39 N., R. 41 E. The Epler township corner became an amended monument. The closing corner became the corner of Tps. 39 and 40 N., R. 40 E., only.

The Epler 1/4 section corner of sections 6 and 31 was reestablished, remonumented and marked for both sections. The Epler corner of sections 31 and 32 was reestablished, remonumented and marked for the SE corner of section 31 only. The Epler corners for sections 32 and 33 and 1/4 section corner for section 33 were reestablished, remonumented and marked for those sections only. The recovered original Epler 1/4 section corners of sections 3 and 34, 2 and 35; and corner of sections 2, 3, 34 and 35 were remonumented and marked as angle points controlling the alinement of the township boundary. Corners for the survey of sections 34, 35 and 36 and the corner of sections 33 and 34 were established at 40 and 80 chains in departure from the Maxson corner of Tps. 39 and 40 N., R. 41 E., and on the Epler line, providing for the basis for the meridional lines to complete the survey of T. 40 N., R. 40 E.

The recovered original Maxson corner of sections 4, 5, 32 and 33 was remonumented and marked for the NE corner of section 5, only. The restored original Maxson corner of sections 5, 6, 31 and 32 was remonumented and marked for the corner of sections 5 and 6, only. The proportionate position of the Maxson 1/4 section corner of sections 5 and 32 was remonumented and marked for the 1/4 section of section 5, only. The remaining recovered original Maxson corners were made amended monuments.

The boundaries of sections 1 thru 5 and sections 31 and 32 were resurveyed. Where the lines between sections 1 and 2, 2 and 3, and 3 and 4 intersected the Epler line, closing corners were established and monumented. Where the center-

lines of sections 1 thru 4 intersected the Epler line, 1/4 section corners of those sections were established and monumented. Thus the Maxson survey was terminated in sections 1 thru 4 at the Epler line.

At the intersection of the Epler line with the east boundary of section 5, a closing corner of sections 4 and 32 was established and monumented. At the intersection of the Maxson line with the east boundary of section 31, a closing corner of sections 6 and 32 was established and monumented.

At the intersection of the north-south centerline of section 32 with the Maxson line, a 1/4 section corner for section 32 was established and monumented, marked for section 32, only.

The range line between Tps. 40 N., Rs. 40 and 41 E., was surveyed north from the Maxson corner of Tps. 39 and 40 N., R. 41 E., and the corner of sections 25 and 36, only, established 80 chains in latitude north of the closing corner on the Epler line which was established for the corner of Tps. 39 and 40 N., R. 40 E. The south boundary of section 36, T. 40 N., R. 40 E., was within limits for alinement. From the newly established corner of sections 35 and 36 the line between sections 35 and 36 was surveyed N. 0° 01' W., 80 chains to establish the corner of sections 25, 26, 35 and 36. From this corner a sectional correction line was surveyed due west. The lines between sections 34 and 35, and 33 and 34 were run N. 0° 02' W., to an intersection with the sectional correction line, where regular corners were established. The line between sections 28 and 33 was resurveyed and surveyed due east to a closing corner on the new third meridional section line. The lottings were placed against the south boundary of the township and east half of section 33. From the sectional correction line the survey of T. 40 N., R. 40 E., proceeded in the normal manner and on the established plan for completion of the fourth range of sections.

Since all four townships were dependent to at least some extent on each other the field notes and plats were submitted for approval as a package. They were all accepted on the same date, January 18, 1968. The accepted plats are shown in figures 5 and 6.

MAXSON OVERLAP IN NEVADA

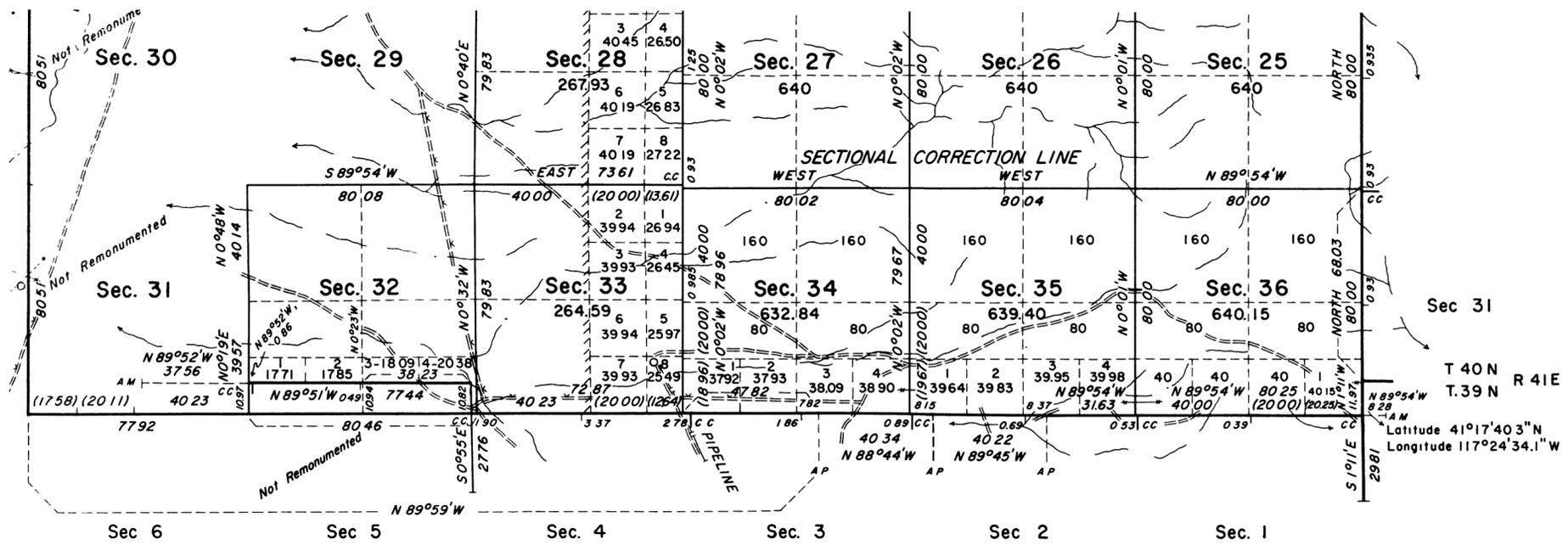


Figure 5 - Portion of Accepted Plat,
T. 40 N., R. 40 E.

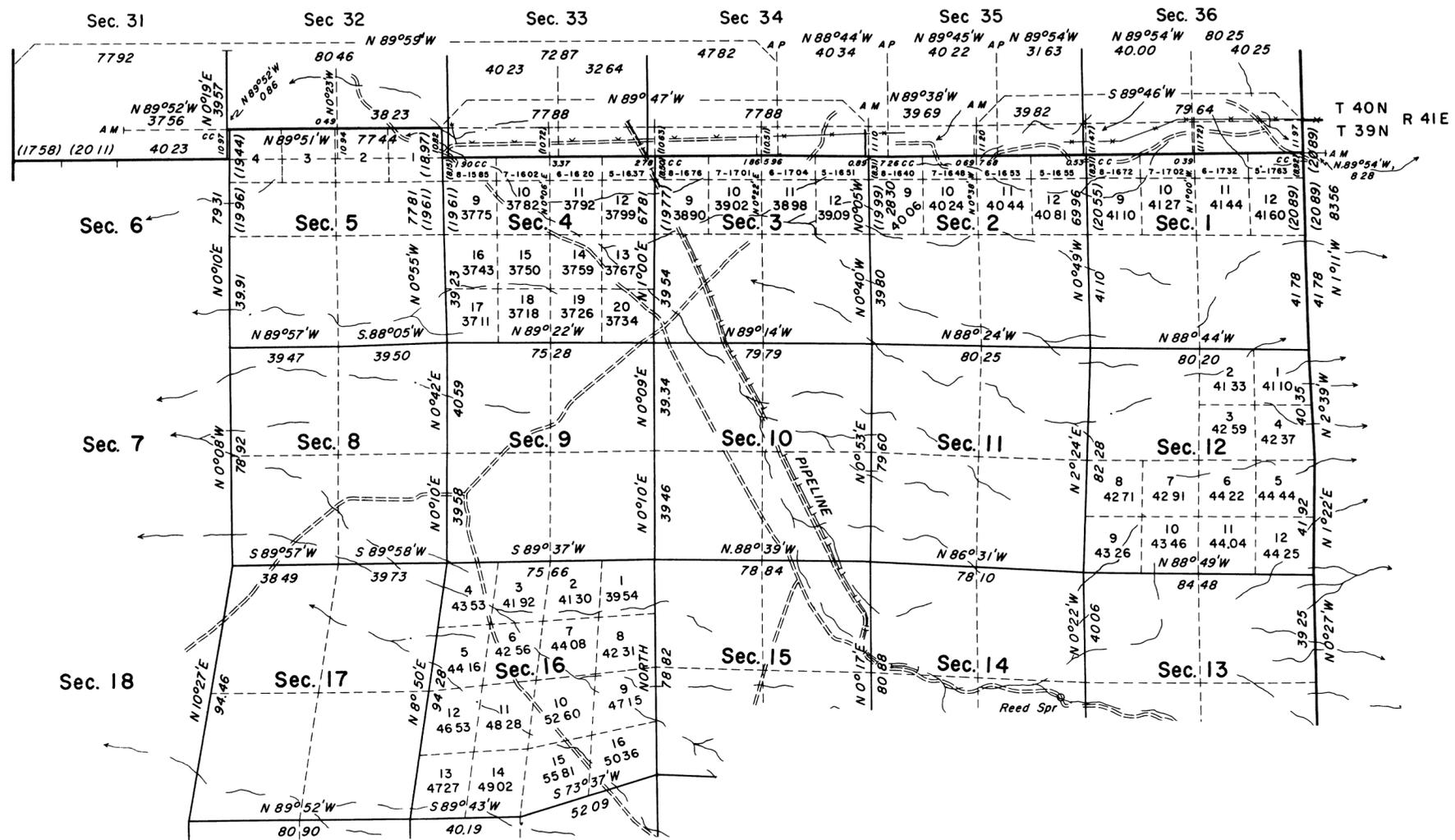
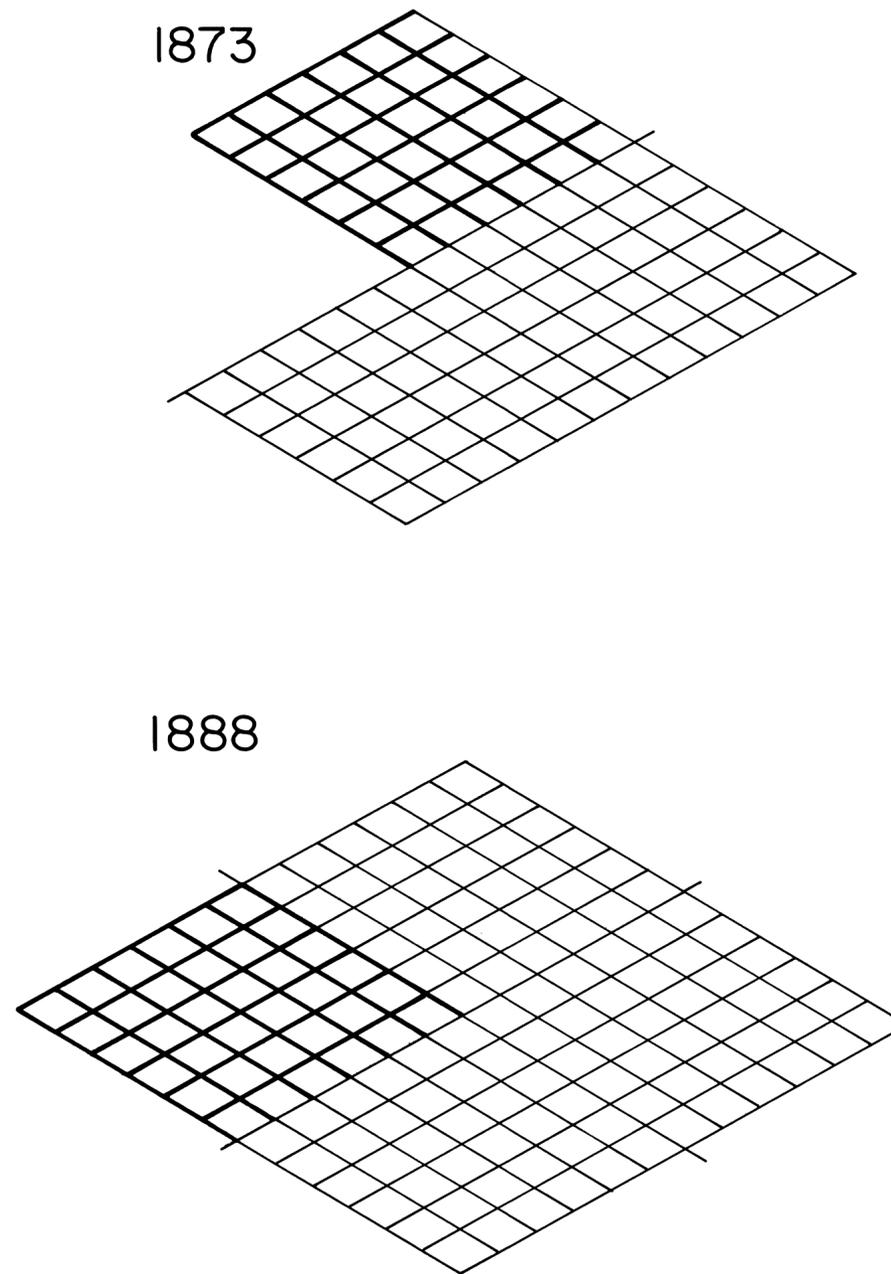
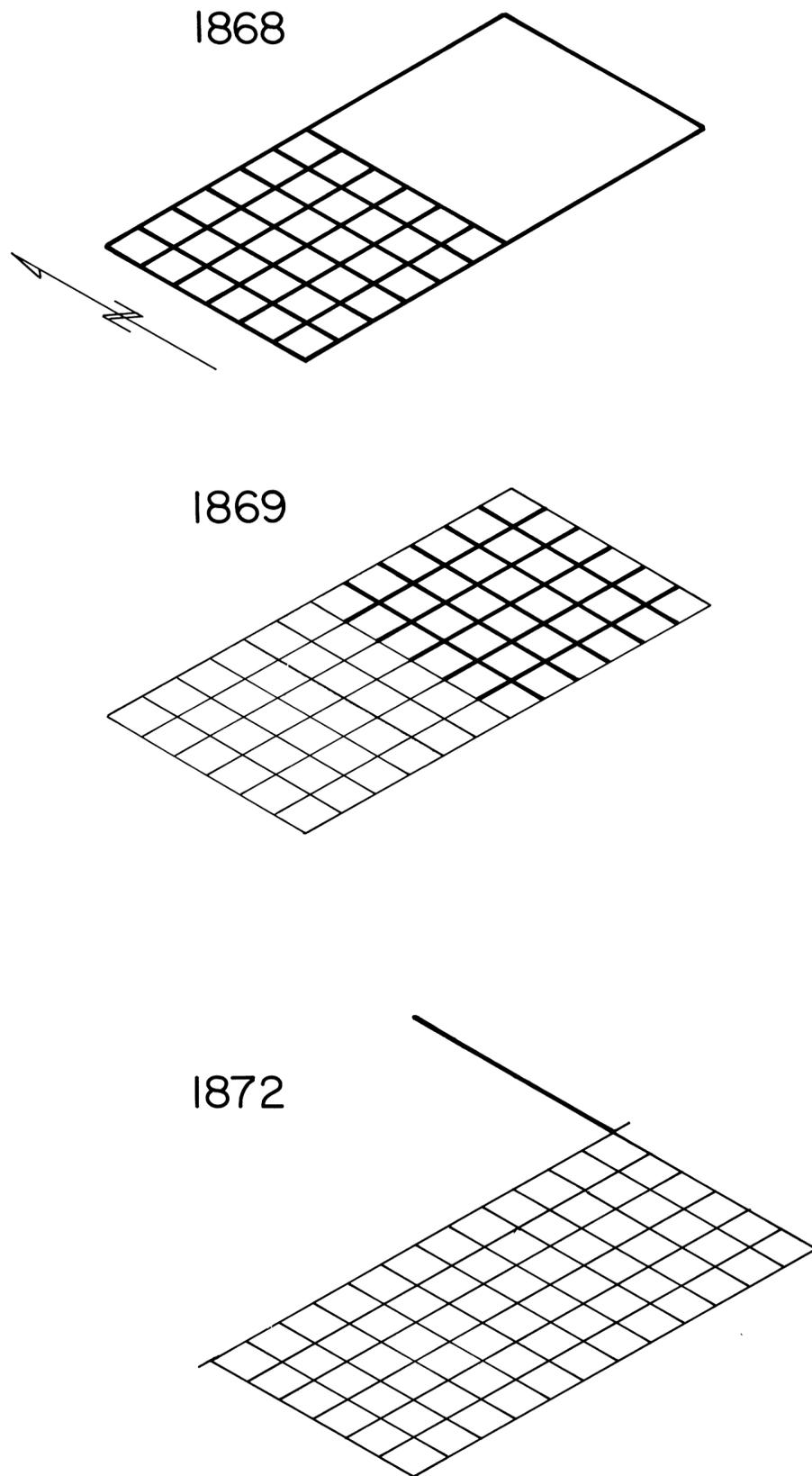


Figure 6 - Portion of Accepted Plat,
T. 39 N., R. 40 E.

HIATUS IN NEVADA



History of Surveys

- 1868 A.J. Hatch surveyed all of the exterior boundaries of T. 37 N., Rs. 42 and 43 E., and surveyed the subdivisional lines of T. 37 N., R. 42 E., Mt. Diablo Meridian, Nevada.
- 1869 A.J. Hatch and J.H. Eaton surveyed the subdivisional lines of T. 37 N., R. 43 E.
- 1872 A.J. Hatch and J.C. Smyles surveyed the east boundary of T. 38 N., R. 43 E. This line was reported as being surveyed north from the northeast corner of T. 37 N., R. 43 E., established by Hatch in 1868.
- 1873 W.W. Skinner, G.W. Garside and C.S. Preble surveyed the west and north boundaries of T. 38 N., R. 43 E. These surveys were reported as being initiated at the corners established by Hatch in 1868, (south boundary) with the east boundary being the line established by Hatch and Smyles in 1872.

- 1888 H.B. Maxson surveyed the west and north boundaries and subdivisional lines of T. 38 N., R. 42 E. Maxson reportedly retraced the Skinner, Garside and Preble west boundary of T. 38 N., R. 43 E., and that it was his east boundary of T. 38 N., R. 42 E.

Based on the record of these surveys, all corners are common and are corners of maximum control, a "normal" condition.

Reasons for Request of this Survey

The Winnemucca District Manager requested these resurveys to identify and mark the boundaries of intermingled ownership and for administrative needs.

Special Instructions

The Special Instructions for Group 411, Nevada, were approved on March 19, 1963. They provided for the dependent resurvey of government owned lands in T. 37 N., R. 41 E., Tps. 36, 37 and 38 N., R. 42 E., and Tps. 37 and 38 N., R. 43 E., M.D.M.

This discussion is limited to the four townships indicated in the history of surveys.

Field work began on October 7, 1963.

Conditions Found on the Ground

The ownership pattern is basically one in which the odd number sections are patented and the even numbered sections are public lands, with a few exceptions not relevant to this discussion.

The retracements of Tps. 37 N., Rs. 42 and 43 E., were made without particular difficulty, resulting in recovery of about 43% of the original corners established by Hatch in 1868-69, see figure 1.

The retracements were extended into T. 38 N., R. 42 E. The west boundary of this township is approximately along the top of the Osgood mountains and is very rough terrain. The corner of sections 1, 6, 7 and 12 and the northwest corner of the township were recovered on good alinement and reasonably precise measurement.

Initially, none of the corners on the east boundary of T. 38 N., R. 42 E., could be found but 46% of the corners on the north boundary and subdivisional lines were eventually recovered, including the northeast corner of that township.

After extensive search in T. 38 N., R. 43 E., the subdivisional lines were discovered about ¼ mile north (in latitude) of the corresponding lines in T. 38 N., R. 42 E. After retracing the subdivisional lines out to the exterior boundaries all four corners of T. 38 N., R. 43 E., were recovered as well as a second set of corners along the south boundary. The corners along the south boundary of T. 38 N., R. 43 E., were located nearly ¼ mile north of the corners along the north boundary of T. 37 N., R. 43 E.

Eventually 37% of the corners for T. 38 N., R. 43 E., were recovered, all about ¼ mile north of their theoretical position in relationship to T. 37 N., R. 43 E., and Maxson's corners in T. 38 N., R. 42 E.

After thorough investigations, retracements and corner search, the following conclusions were drawn:

1. Hatch had properly and faithfully executed the surveys of the exterior boundaries and subdivisional lines of Tps. 37 N., Rs. 42 and 43 E., in 1868-69.
2. For some unexplainable reason J.C. Smyles, in 1872, established a new corner on the range line for the southeast corner of T. 38 N., R. 43 E., about 16 chains north and 2½ chains west of the northeast corner of T. 37 N., R. 43 E., (established by Hatch in 1868). Smyles surveyed the east boundary of T. 38 N., R. 43 E., North from his "new" corner.

HIATUS IN NEVADA

3. In 1873 Skinner found the Smyles township corner and range line but couldn't find the south boundary (the Hatch line) of T. 38 N., R. 43 E., so he ran a new south boundary, set a new southwest township corner and then surveyed his west and north boundaries and subdivisional lines. Why Skinner did not report surveying new a south boundary cannot be determined.

4. A Hiatus of about 1/4 mile in latitude exists between the Hatch north boundary of T. 37 N., R. 43 E., and the Skinner south boundary of T. 38 N., R. 43 E. This hiatus is unsurveyed public domain.

5. Maxson initiated the west boundary of T. 38 N., R. 42 E., at the Hatch township corner, ran north for 6 miles, set the northwest corner of T. 38 N., R. 42 E., and then ran east for 6 miles along the north boundary. He couldn't find the Skinner township corner so he set one of his own.

6. Maxson's reported retracement of the Skinner west boundary of T. 38 N., R. 43 E., was wholly fictitious.

7. Maxson began his subdivisional lines of T. 38 N., R. 43 E., at the Hatch corners along the north boundary of T. 37 N., R. 42 E., and ran the first meridional line in much the same manner as a sectional guide meridian might be surveyed.

8. Maxson never ran the east half mile of the latitudinal lines in the first range of sections in T. 38 N., R. 42 E. He merely "stubbed" those lines east for 1/2 mile, set the 1/4 section corners, and never closed over to the allegedly retraced east boundary.

9. If a straight line is produced from the Hatch northeast corner of T. 37 N., R. 42 E., to the Maxson established northeast corner of T. 38 N., R. 42 E., (to form an east boundary of T. 38 N., R. 42 E.) the line will create a very narrow overlap with the Skinner line in the south 2 miles and a very narrow hiatus in the north 4 miles. At the present time only one set of corners exist along the lines; those set by Skinner for T. 38 N., R. 43 E. All of Skinner's corners are approximately 1/4 mile north of the Maxson corners 1/2 mile (or mile) to the west.

10. Except for the 1/4 mile hiatus created by the displacement of T. 38 N., R. 43 E., and fictitious work by Maxson, all of the original surveys were well executed. No excessive distortion exists.

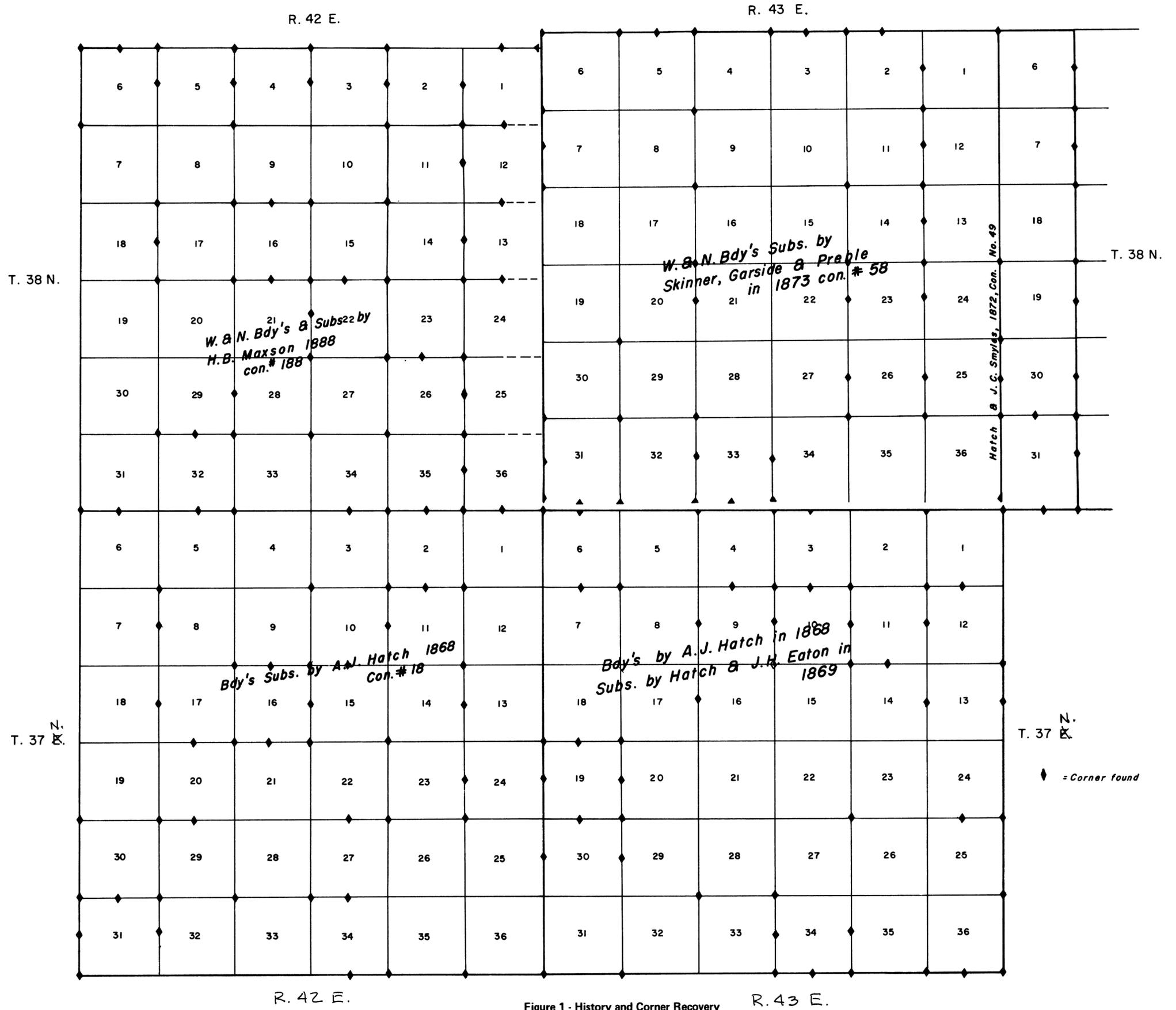


Figure 1 - History and Corner Recovery

HIATUS IN NEVADA

Preliminary Statement of the Problem

The surveyor must report the conditions found on the ground and recommend a surveying procedure to resolve the problems involved. How should the hiatus be surveyed and how should the first range of sections in T. 38 N., R. 42 E., be resurveyed?

Regulations

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

5-35	Junior-Senior lines (final paragraph)
6-2 and 6-4	Resurveys
6-12 to 6-18	Bona fide rights of claimants
6-19 to 6-24	Reports of field investigations

Legal Constraints

Although this resurvey and survey was executed earlier, it must be based upon the legal principles outlined in *Unites States v. Macmillan*, 331 F. Supp. 435 (1971), a Nevada case which involved a hiatus created in 1893.

See also *United States v. Weyerhaeuser Company*, 392 F. 2d 448 (1967, Ore.) which is cited in the *U.S. v. Macmillan* case.

Changes in Instructions

Supplemental Special Instructions for Group 411 were approved on November 3, 1963. They provided for the survey of the hiatus, designated T. 37½ N., R. 43 E.

The existing conditions along the west boundary of T. 38 N., R. 43 E., were reported to the Washington Office along with a recommended procedure, which was approved.

Final Statement of Problem

The surveyor is to survey and monument T. 37½ N., R. 43 E., the hiatus, as well as resurvey the west boundary of T. 38 N., R. 43 E., and establish corners for the east boundary of T. 38 N., R. 42 E., in compliance with the approved instructions.

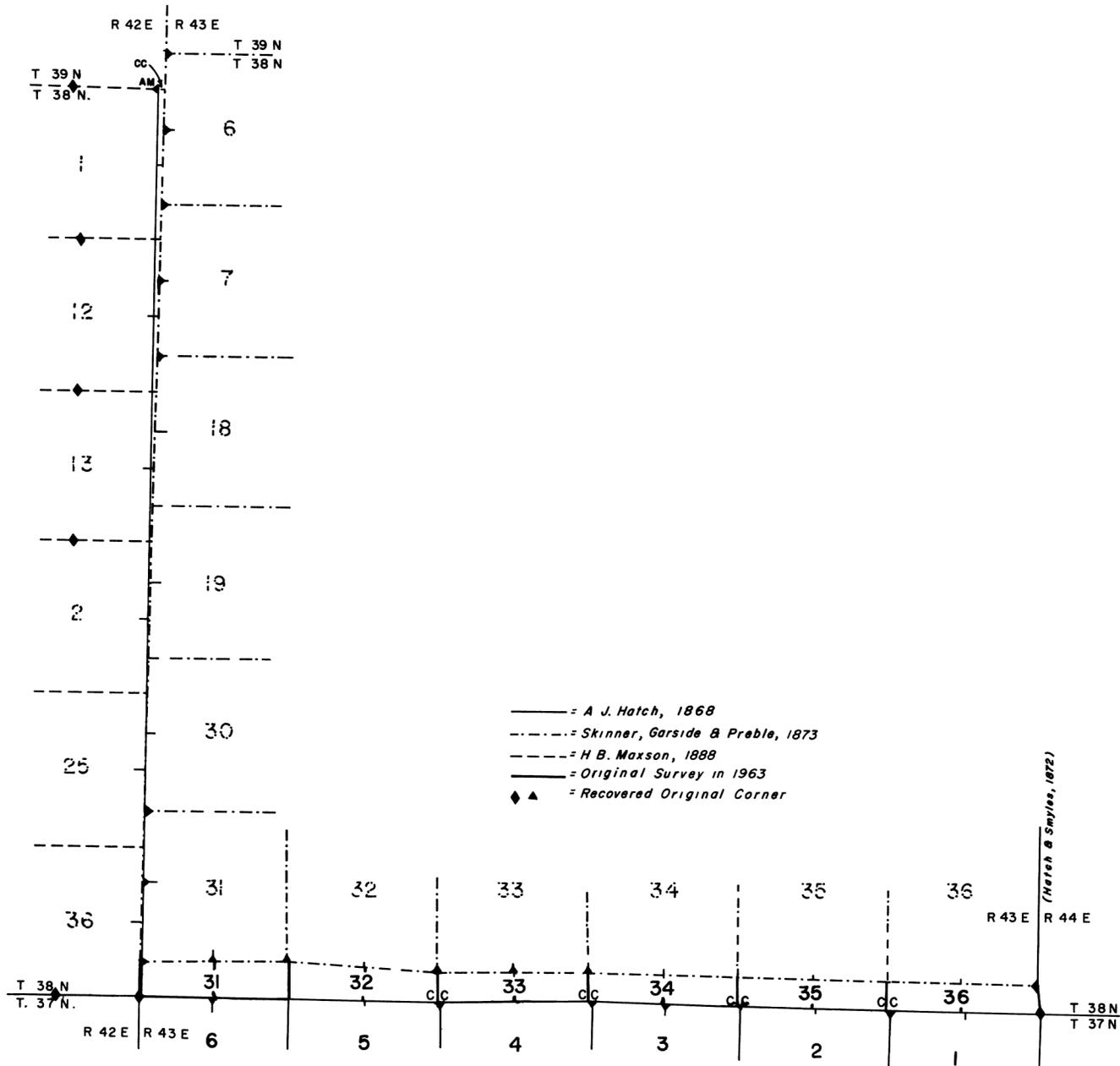


Figure 2 - Survey Procedure

Solution

As shown in figure 2, Survey Procedure, the hiatus between Tps. 37 and 38 N., R. 43 E., was surveyed as T. 37½ N., R. 43 E., with Skinner's south boundary of T. 38 N., R. 43 E., as the controlling boundary of the subdivisional lines of the fractional township. The southeast corner of T. 38 N., R. 43 E., is the corner set by Hatch and Snyles in 1872. The southwest corner of T. 38 N., R. 43 E., is the corner evidently established by Skinner in 1873, as are the other corners recovered along the south boundary of that township. Lost corners along this boundary were replaced by single proportionate measurements based on the Skinner plat.

The south boundaries of sections 34, 35 and 36 were within limits for both alinement and measurement. The corners of these three sections were marked for both sides, i.e., corners of maximum control. The south boundary of sections 31, 32 and 33 were out of limits for both alinement and measurement. New corners of minimum control were established at 40 and 80 chains in departure westerly from the corner of sections 33 and 34 on the Skinner line, standing for the corners of sections 31, 32 and 33, T. 37½ N., R. 43 E.

The north boundary of T. 37 N., R. 43 E., is the line surveyed by Hatch in 1868. The lost corners along this line were restored by single proportionate measurements, based on the Hatch and Eaton plat.

From the corner of sections 35 and 36, on the Skinner line, the line between sections 35 and 36 of T. 37½ N., was run due South to a closing corner on the Hatch line. From the Skinner corners of sections 33 and 34, 34 and 35, the lines between these sections were run south, parallel to the line between sections 35 and 36, to closing corners on the Hatch line. From the newly established corner of sections 32 and 33, a parallel line was surveyed south to a closing corner on the Hatch line. From the newly established corner of sections 31 and 32 on the Skinner line, the line between sections 31 and 32 was surveyed S. 0° 09' W., to the Hatch corner of sections 5 and 6, because the 0° 09' is well within the 21' limit for rectangularity.

The ¼ section corners on what is now the south boundary of T. 37½ N., for sections 32 thru 35 were placed at midpoint in departure between closing corners. The ¼ section corner for section 36 was placed 40 chains east, in departure from the closing corner of sections 35 and 36. The ¼ section corner of section 31 was placed 40 chains west, in departure from the corner of 5, 6, 31 and 32.

All six of the fractional sections of T. 37½ N., were lotted in the normal manner, placing the excess or deficiency in lot 1 of section 36 and lot 4 of section 31.

This completed the survey of the Hiatus, T. 37½ N., R. 43 E. Notice of the survey of this township was duly published in the Federal Register as an original survey.

The apparent conflict between T. 38 N., Rs. 42 and 43 E., was resolved by holding the Skinner west boundary of T. 38 N., R. 43 E., as the Senior line and the alleged retracement by

HIATUS IN NEVADA

Maxson as a Junior survey. The north boundary of section 1, T. 38 N., R. 42 E., was extended through the Maxson township corner to an intersection with the Skinner line on the west boundary of section 6, and a closing township corner established. Thus the Maxson corner was treated as an "offline" closing corner. Corners of minimum control, referring to T. 38 N., R. 42 E., were then established at proportionate distance in latitude, between the Hatch northeast corner of T. 37 N., R. 42 E., and the new closing township corner, and on the Skinner west boundary of T. 38 N., R. 42 E. The proportions were based on the Maxson plat. The lost corners along the Skinner west boundary of T. 38 N., R. 43 E., were restored by single proportionate measurement based on the Skinner plat. All of the original and restored corners along the Skinner line were marked to refer to T. 38 N., R. 43 E., only.

The subdivisional lines of the first range of sections in T. 38 N., R. 42 E., were resurveyed to the newly established corners along the east boundary of the township. In this way any question of a conflict or hiatus was eliminated and the areas shown on the Maxson plat were "protected" and prevented on unwarranted gross distortion of the east range of sections.

The accepted plats of survey and resurvey of Tps. 37½ and 38 N., R. 43 E., and T. 38 N., R. 42 E., are shown in Figures 3a, 3b and 3c.

TOWNSHIP 37 1/2 NORTH, RANGE 43 EAST, OF THE MOUNT DIABLO MERIDIAN, NEVADA

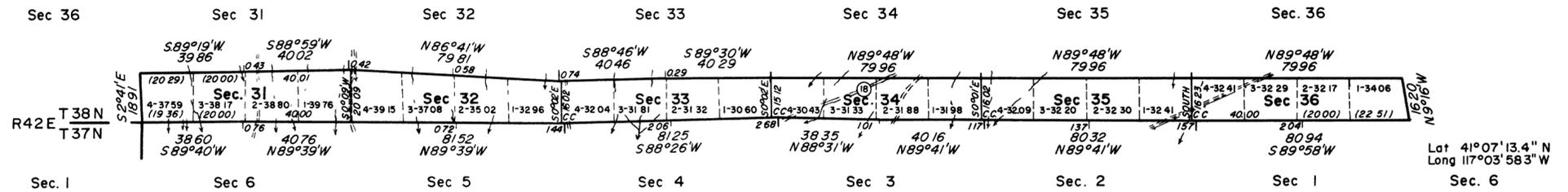
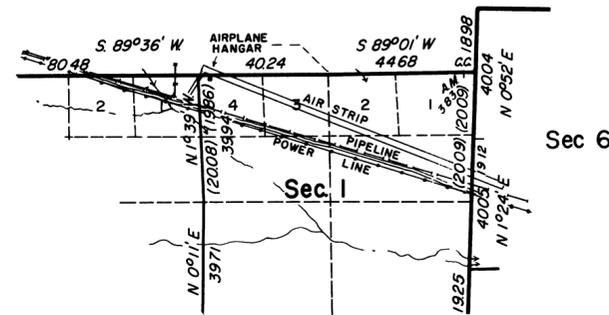


Figure 3a - Portion of Accepted Plat



TOWNSHIP 38 NORTH, RANGE 42 EAST, OF THE MOUNT DIABLO MERIDIAN, NEVADA DEPENDENT RESURVEY

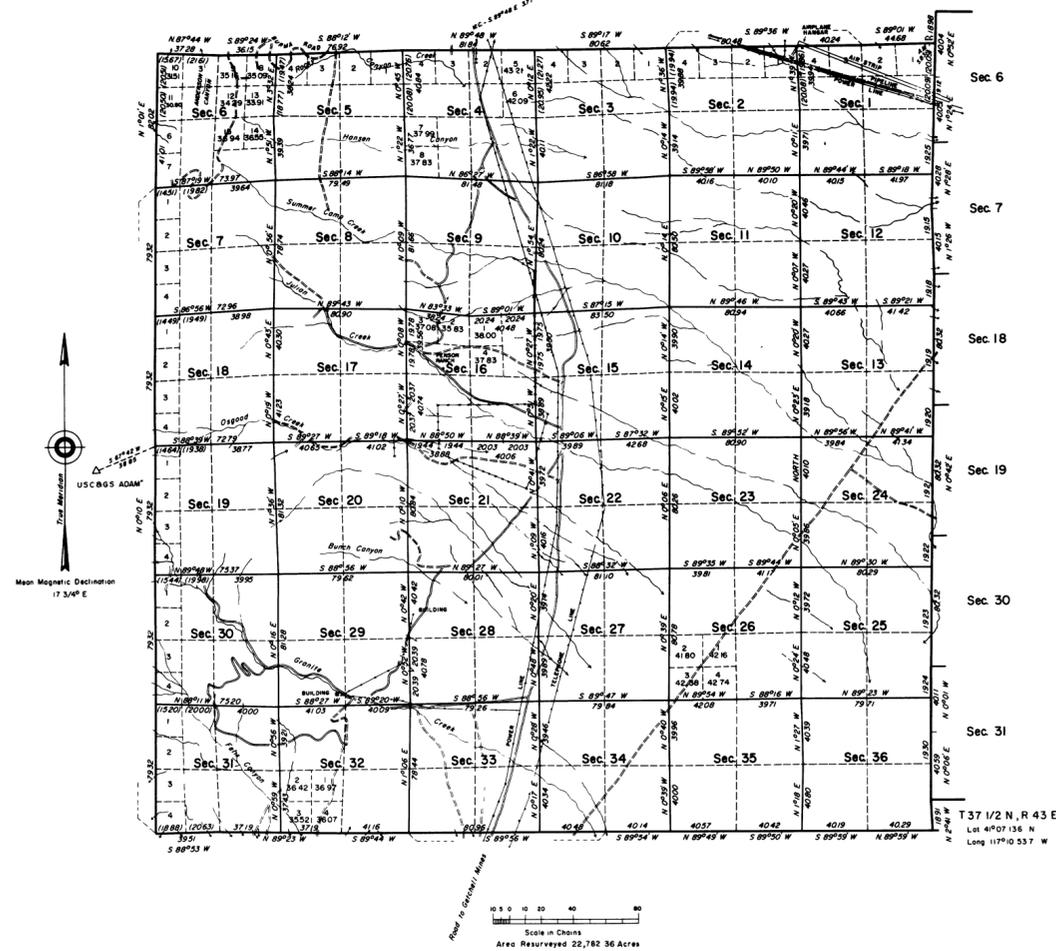


Figure 3b - Portion of Accepted Plat With Detail Above

TOWNSHIP 38 NORTH, RANGE 43 EAST, OF THE MOUNT DIABLO MERIDIAN, NEVADA DEPENDENT RESURVEY

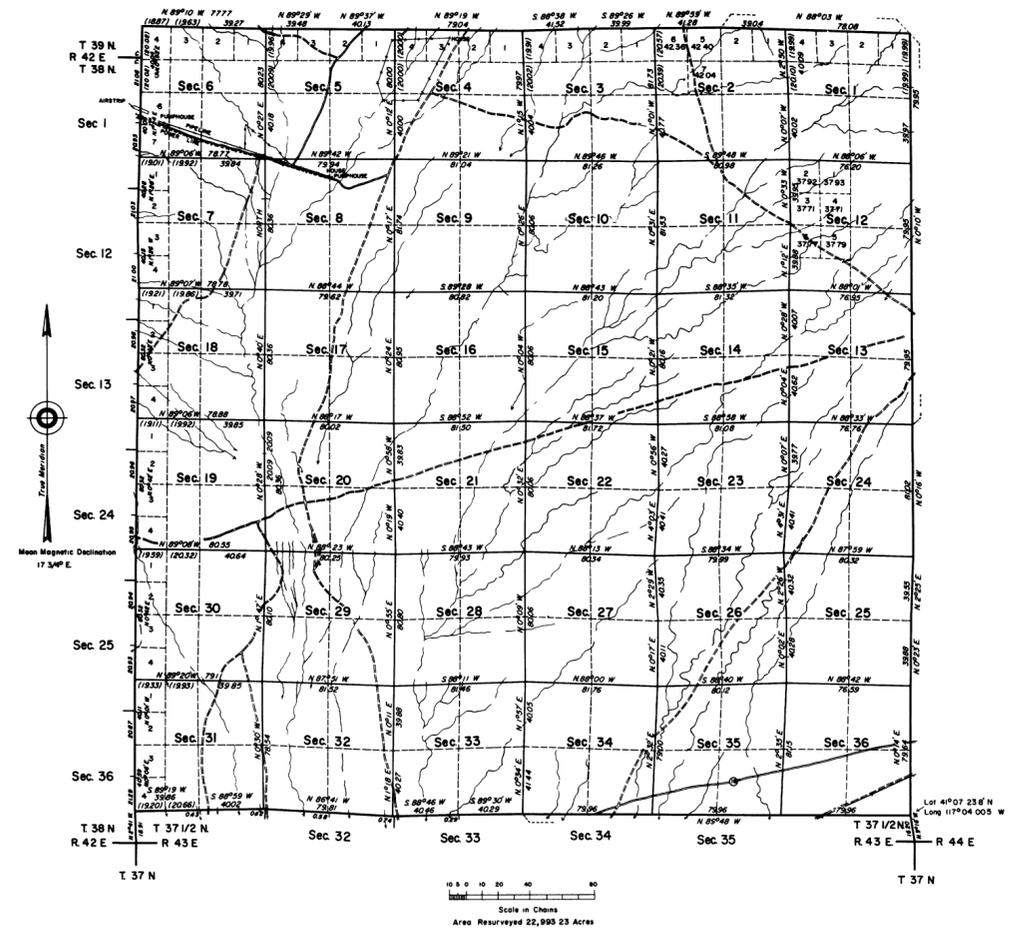
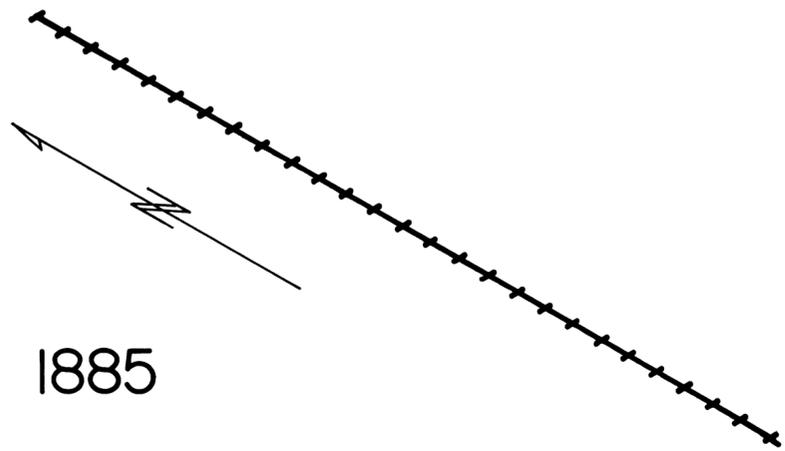
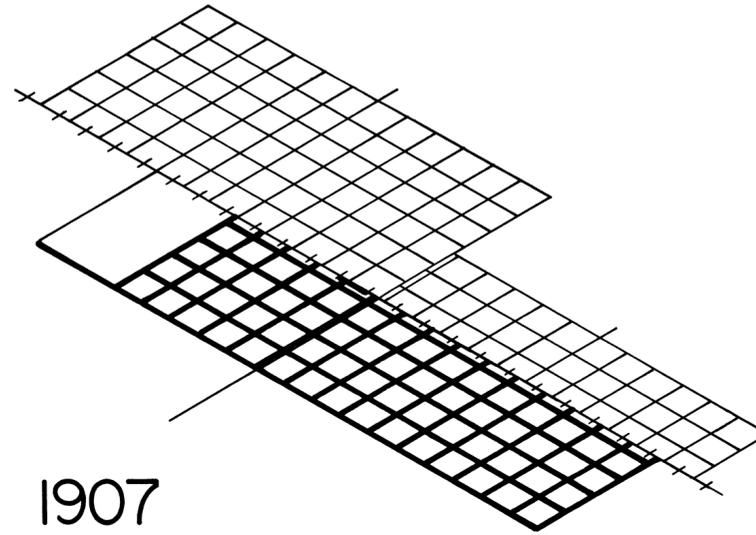


Figure 3c - Portion of Accepted Plat

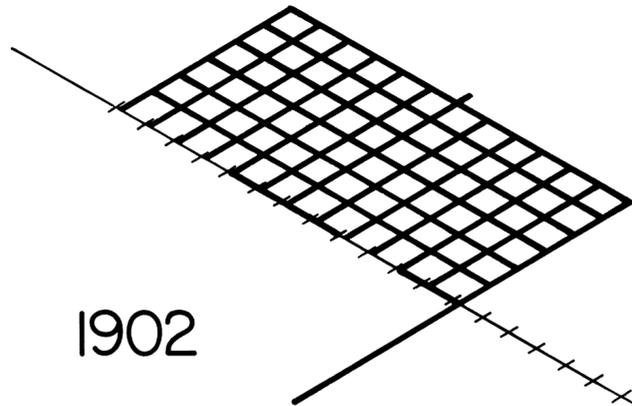
STATE BOUNDARY LINE RETRACEMENT



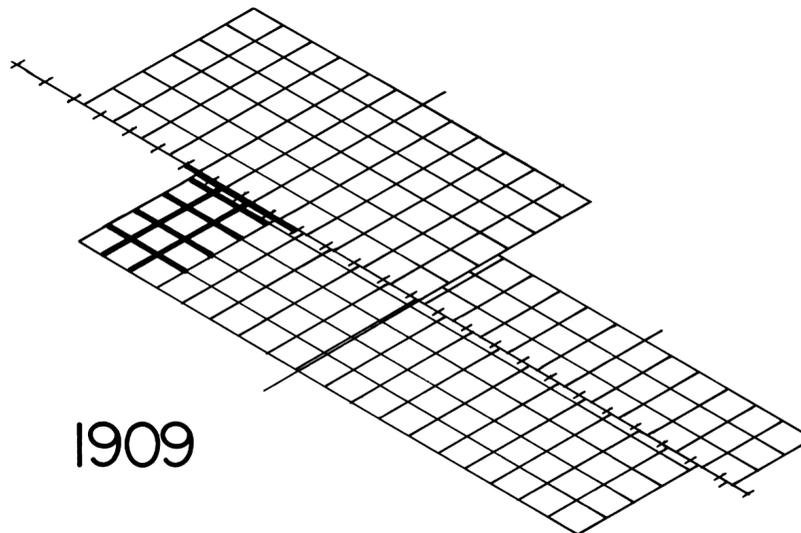
1885



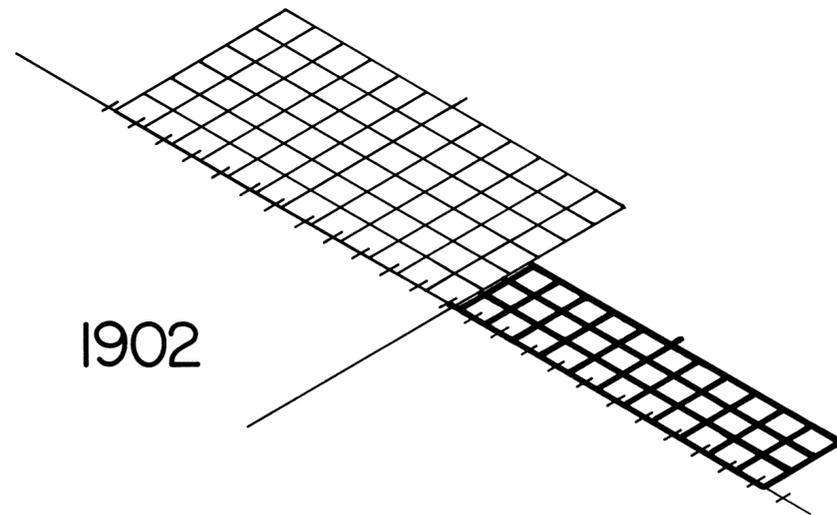
1907



1902



1909



1902

History of Surveys

- | | | | |
|------|---|------|---|
| 1885 | Daniel G. Major surveyed the Montana-North Dakota State boundary. Major ran the line North, along the 27th meridian west of Washington, D C., and set a mile post every 80 chains | 1907 | R.F. Scott and H.E. Fearnall surveyed the exterior boundaries and subdivisional lines of Tps. 5 and 6 N., R. 61 E., and the south half of T. 7 N., R. 61 E., Principal Meridian, Montana, as shown on the plats approved February 2, 1909, figures 1, 2 and 3. Scott and Fearnall retraced the state boundary between the 89-90 mile posts. The remainder of the boundary retracements were taken from the North Dakota record executed by Dike and Soule |
| 1902 | George K. Dike surveyed the Eighth Standard Parallel, exterior boundaries and subdivisional lines of Tps. 133 and 134 N., R. 106 W., 5th P.M., North Dakota. Dike retraced the state boundary between the 89-91 and 93-97 mile posts. | 1909 | Lewellyn D. Lyman completed T. 7 N., R. 61 E., as shown on the plat approved April 9, 1910, figure 4. Lyman retraced the state boundary between the 93-97 mile posts |
| 1902 | Hiram A. Soule surveyed the exterior boundaries and subdivisional lines of Tps. 131 and 132 N., R. 107 W., 5th P.M., North Dakota. Soule retraced the state boundary between the 78-89 mile posts. | | |

Reasons for Request of this Survey

T. 6 N., R. 61 E., contains intermingled public and patented lands. Many of the original corners are lost or obliterated. The state boundary is uncertain. The Miles City District Manager requested a resurvey to identify the public lands in the township.

Special Instructions

Special Instructions were approved on June 13, 1966, for Group 542, Montana. They provided for the dependent resurvey of T. 6 N., Rs. 60 and 61 E. All section corners, 1/4 section and 1/16 section corners necessary to define the boundaries of public lands were to be reestablished or established. This discussion is limited to the mile posts and corners along the state boundary.

Assignment Instructions

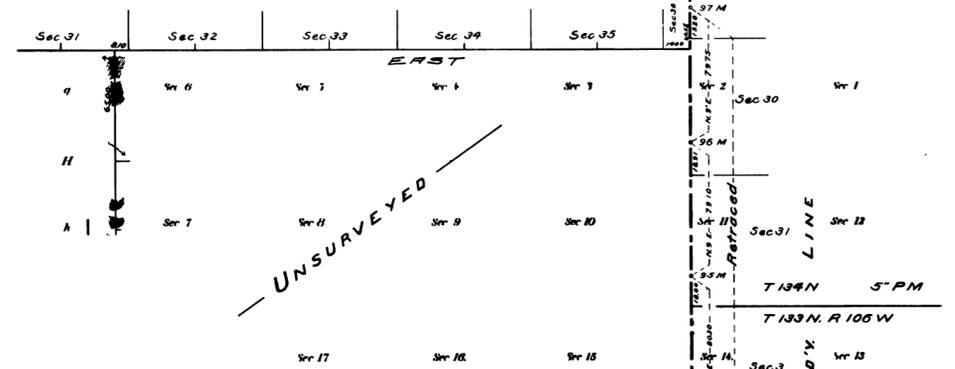
Assignment instructions were issued on July 25, 1966. Field work began on August 23, 1966.

Conditions Found on the Ground

Most of the mile posts and closing corners along the state boundary were lost. After retracements and search the 83 and 96 mile posts were recovered. Only five original closing corners were recovered. One of these was the closing corner of the Eighth Standard Parallel, 5th P.M., North Dakota. Figure 5 shows the latest record courses and distances between mile posts, record distances from mile posts to closing corners, the recovered corners (on each side of the state line) and the relative coordinates of mile posts 83 and 96 as determined by the present retracements.

STATE BOUNDARY LINE RETRACEMENT

Township N^o 7 North Range N^o 61 East of the Principal Meridian Montana.



Township N^o 0 North Range N^o 61 East of the Principal Meridian, Mont.

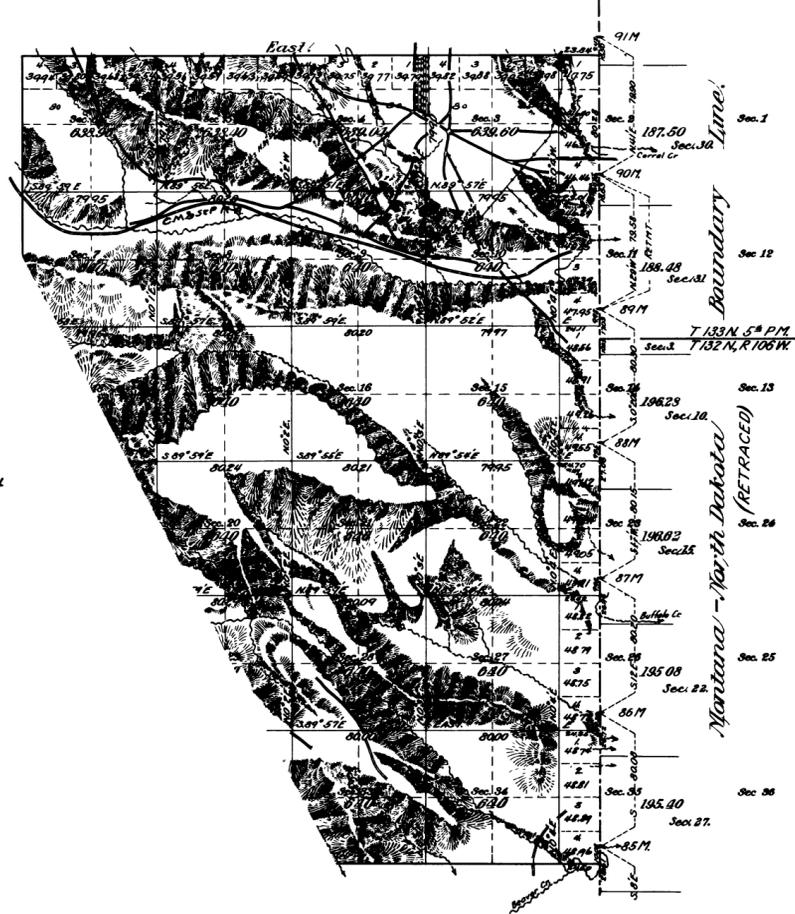


Figure 2 - Portion of Original Plat

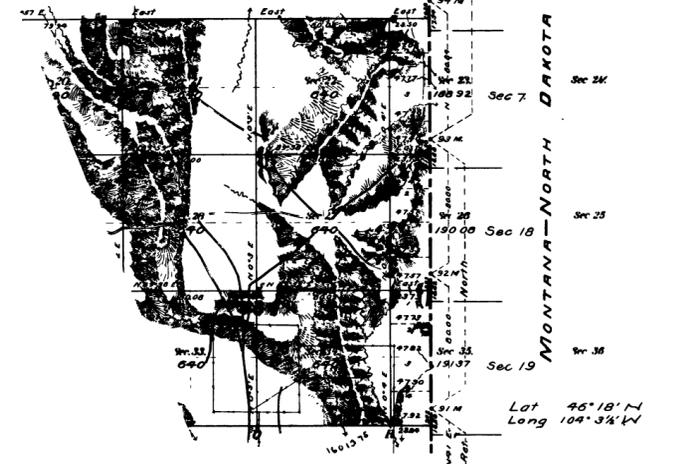


Figure 3 - Portion of Original Plat

Township N^o 5 North Range N^o 61 East of the Principal Meridian Montana

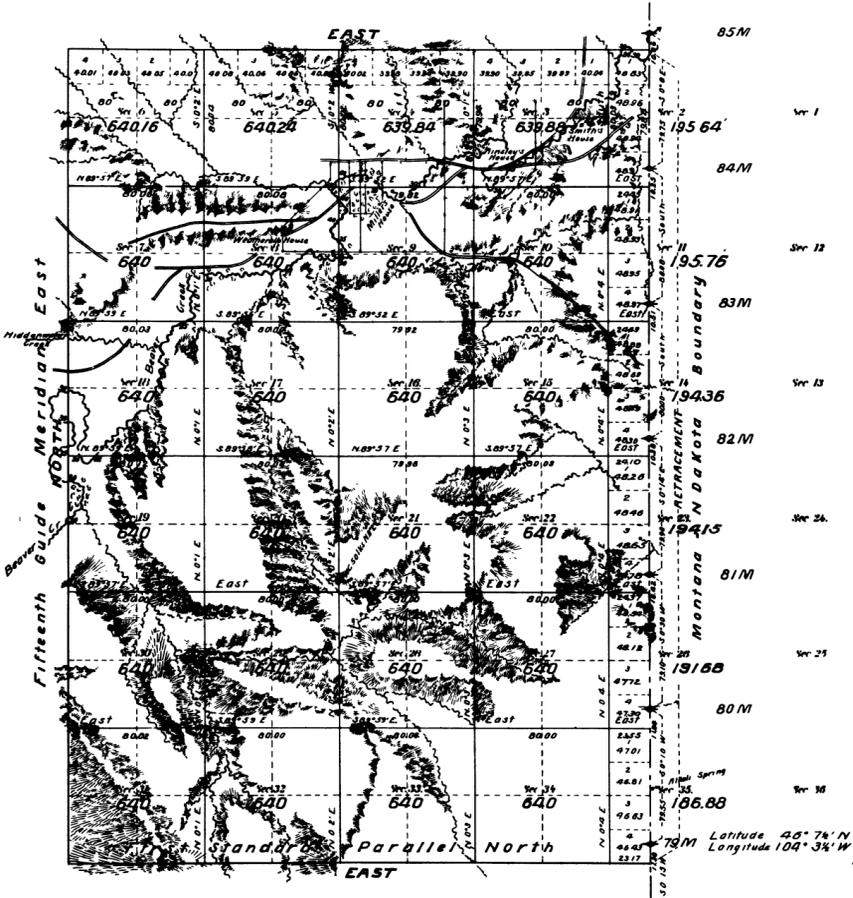
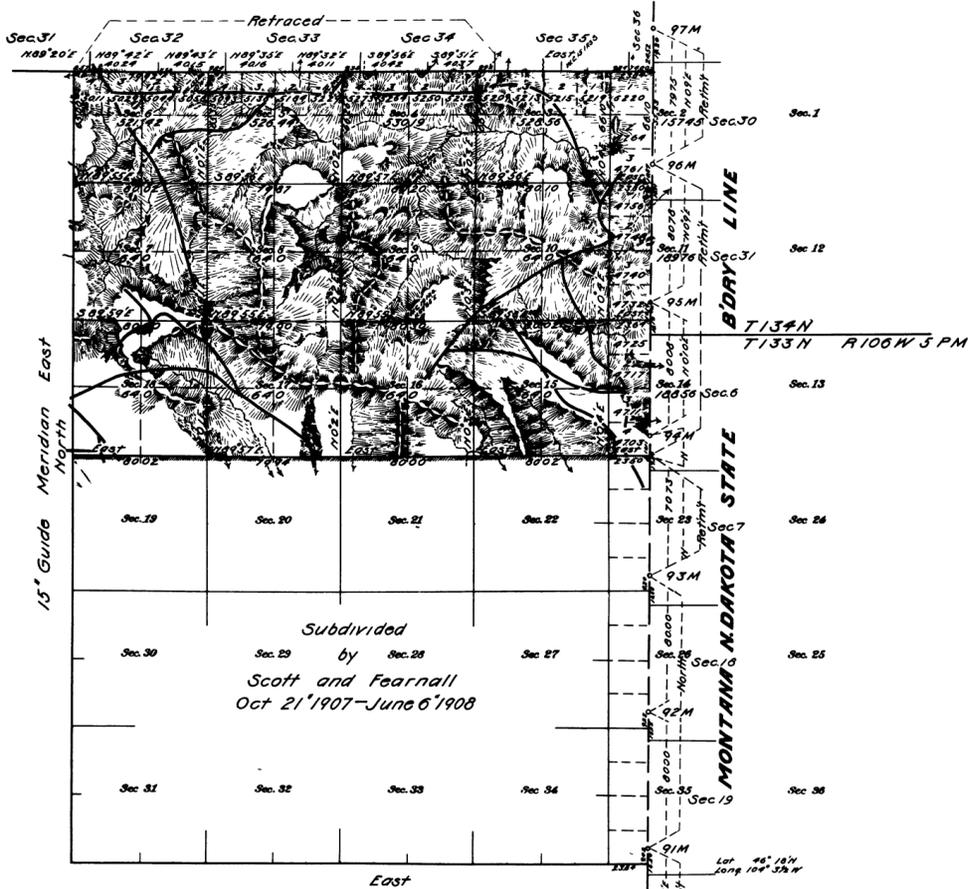


Figure 1 - Portion of Original Plat

STATE BOUNDARY LINE RETRACEMENT

Township No 7 North Range No 61 East of the Principal Meridian, Montana



Survey Designated	By Whom Surveyed	Contract No.	Date	Amount of Survey	When Surveyed	When Completed
Subdivisions	L.D. Lyman	3248	Sept. 17, 1908	19 71 60	April 12 15	1908
North Bdy. Plat State				3 10 02	12 18	
Connections				2 10 97	15	
South Bdy.	Scott & Fearnall	3249	July 15, 1907	4 59 18	12 15	1907
Guide Meridian				23 84	14	
North Bdy.	H.E. Waters	464	June 22, 1904	5 65 00	5	
State Bdy.	From Records			1 14 00	6	1902

The above map of Township No. 7 North Range No. 61 East of Meridian **MONTEANA** is strictly conformable to the field notes in this office, which have been examined and approved.
 U.S. Surveyor General's Office,
 Helena, Montana April 9, 1910

Figure 4 - 1909 Completion Survey

Legal Constraints

The present (1966) preferred view of the Washington Office is that the Bureau of Land Management has no statutory authority to resurvey a state boundary. The surveyor may remonument a recovered boundary monument and he is allowed to set the rectangular survey corners on the boundary but is not allowed to restore and remonument a lost state boundary monument or mile post. (The Manual of Surveying Instructions, 1973, prohibits the establishment of quarter section corners on state boundaries, see section 3-70).

Preliminary Statement of the Problem

The surveyor must restore the points for the missing mile posts to determine the alignment of the state boundary and determine the proportionate position of the lost closing corners. He must determine the true point of intersection of the closing lines at the found closing corners (if necessary) and place the new 1/4 section corners in the proper positions on the state boundary, based on the plat of T. 6 N., R. 61 E., shown in figure 2.

Regulations

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

- 3-68 to 3-73, 5-41 Closing corners
- 3-87 Quarter corners between closing corners
- 4-25, 4-46, 5-19 Corners on state boundaries and state boundary monuments
- 5-36 Irregular boundary adjustment

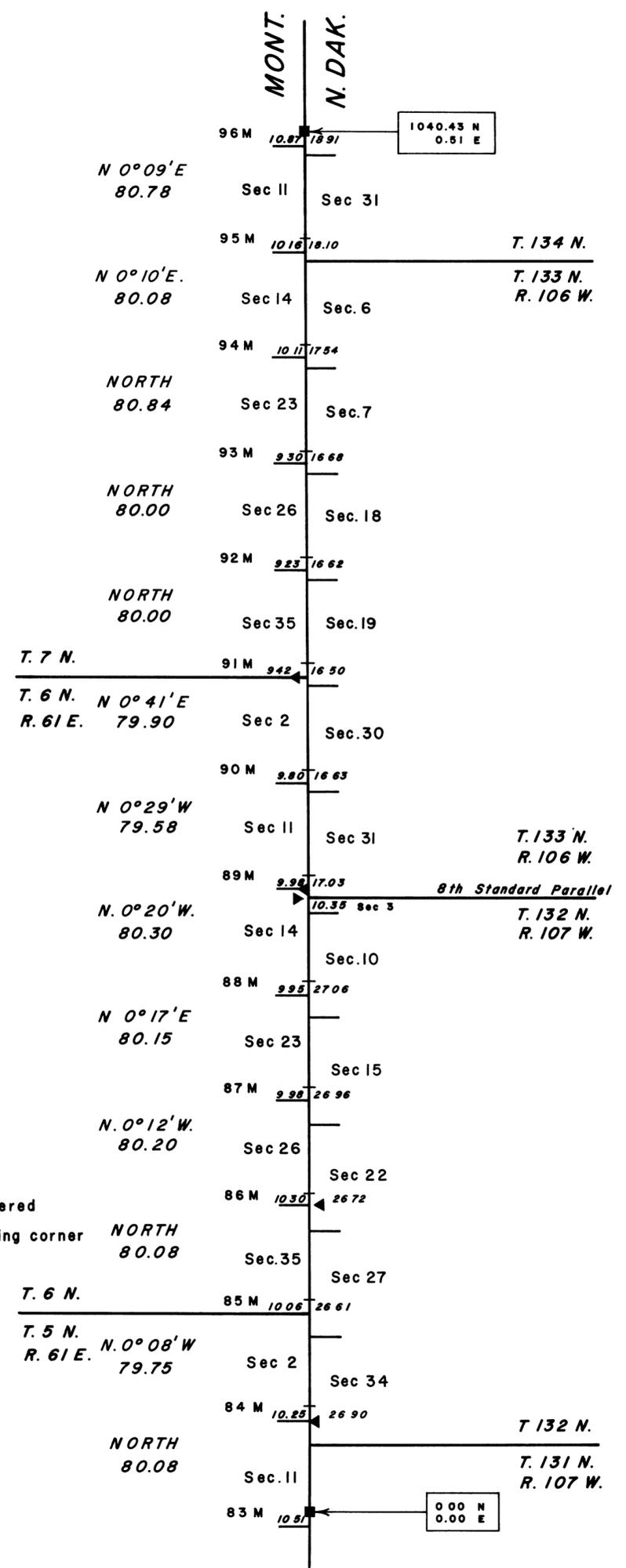


Figure 5 - Record Courses and Recovery Diagram

STATE BOUNDARY LINE RETRACEMENT

TOWNSHIP 6 NORTH, RANGE 61 EAST OF THE PRINCIPAL MERIDIAN, MONTANA.
DEPENDENT RESURVEY

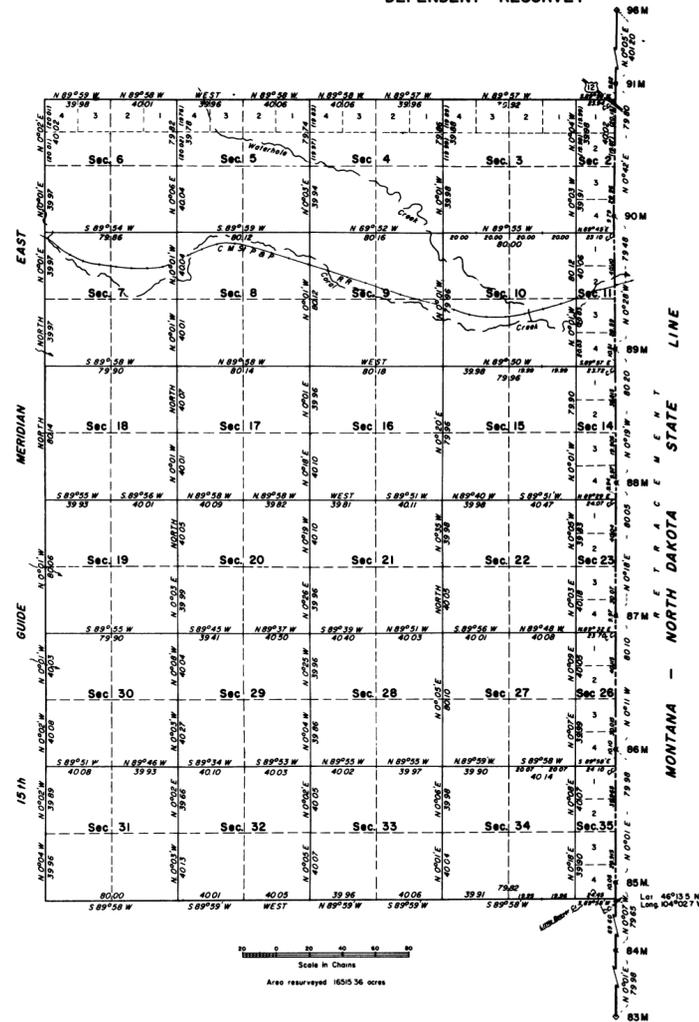


Figure 6 - Accepted Plat with Details on Right

History of the previous surveys is contained in the field notes.

The dependent resurvey of the Fifteenth Guide Meridian East (west boundary), was executed concurrently under T 6 N., R 60 E.

This plat represents the retracements of the MONTANA - NORTH DAKOTA State Line from the 83rd to the 96th mile post, the dependent resurvey of the south and north boundaries and subdivisional lines, designed to restore the corners in their true original locations according to the best available evidence.

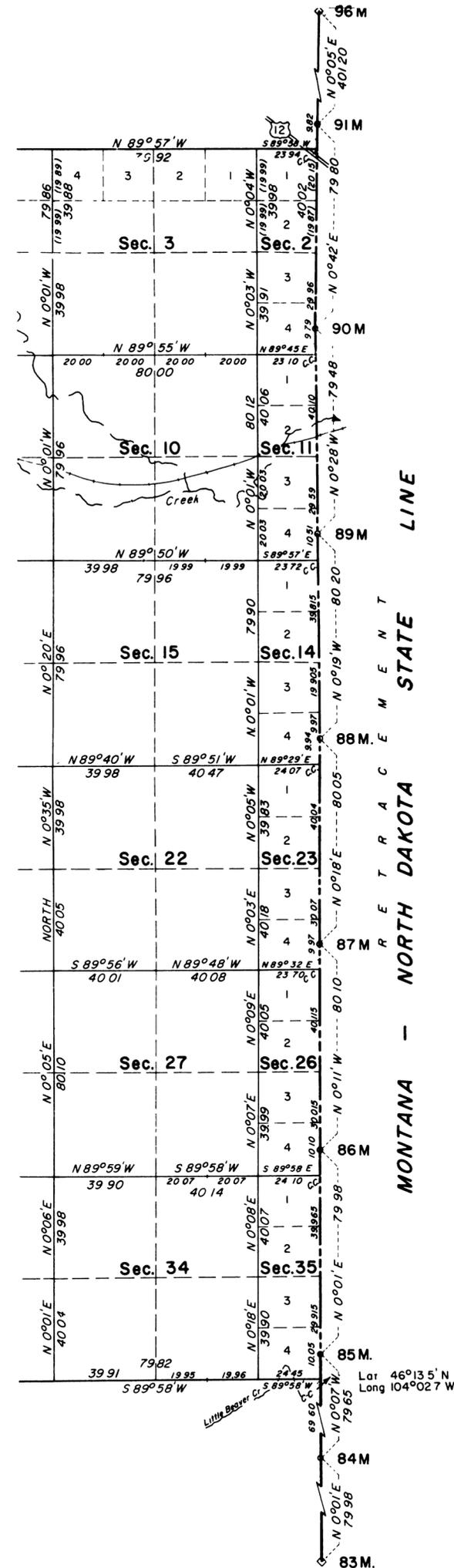
Lotting and areas are as shown on the plat approved February 2, 1909.

The resurvey was executed by Cadastral Surveyor, August 23, 1966, to September 19, 1966, under Special Instructions dated June 13, 1966, for Group No. 346, Montana.

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
Washington, D. C. September 5, 1969

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 F. Lumm
Chief, Division of Cadastral Survey



Final Statement of the Problem

The surveyor must restore the alignment of the state boundary and set points for the missing mile posts, and then place the rectangular survey corners in the correct positions on the state boundary.

Solution

The plat accepted September 5, 1969, figure 6, illustrates the final solution.

The points for the missing mile posts were restored by the irregular boundary method of proportioning. Only the 83 and 96 mile posts were remonumented. After temporary points were established for the missing mile posts the lost closing corners were restored by single proportionment measurement between mile posts. The 1/4 section corners were established at midpoint between closing corners, except the East 1/4 corner of section 2, which was placed proportionately 40 chains north of the closing corner of sections 2 and 11, based on the record plat, figure 2.

The line between Tps. 6 and 7 N., R. 61 E., was extended through the off-line original closing corner to the true point of intersection.

The closing corner of sections 11 and 14 was found to be on the restored state boundary.

The line between sections 26 and 35 was run toward the off-line closing corner but terminated at the restored state boundary.

The off-line closing corner of sections 2 and 11, T. 5 N., R. 61 E., and the off-line closing standard corner of T. 133 N., R. 106 W., were called in the field notes, at falling points. They were not remonumented.

The only 1/16 section corner required was at the S 1/16 section corner of section 14. This corner was established on the state boundary at midpoint between the East 1/4 corner of section 14 and the closing corner of sections 14 and 23.

FOREST EXCHANGE TRACT SURVEY, NEW MEXICO

History of Surveys

- 1858 A.P. Wilbur surveyed the First Guide Meridian East, the east boundary of the township
- 1882 Curry and Jones surveyed the Sixth Standard Parallel North (south boundary of the township), the north boundary and subdivisional lines as shown on the plat approved March 12, 1883. See figure 1.
- 1906 Wendell V. Hall retraced a portion of the east boundary, subdivisional lines and surveyed Small Holding Claims within the township, in accordance with the provisions of the Act of March 3, 1891 (26 Stat. 854), as shown on the plats approved November 5, 1908. See figures 2 and 3.
- 1932 Everett H. Kimmell surveyed Tracts 37, 38 and 39 in section 2. Therefore the next higher tract number in the township would be number forty
- 1962 Certain corners of the Small Holding Claims were remonumented under the Forest Service Remonumentation Program

TOWNSHIP N° 25 NORTH RANGE N° 8 EAST of the N.M. PRINCIPAL MERIDIAN

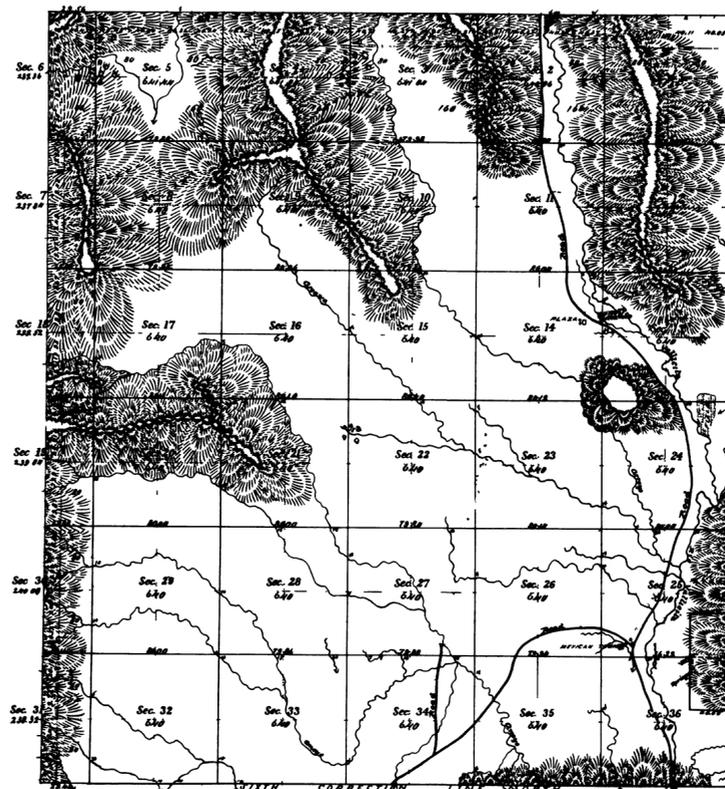
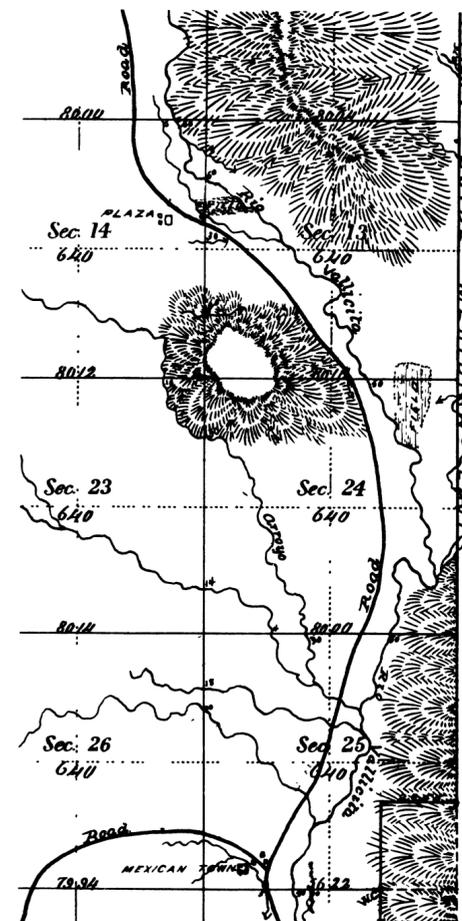


Figure 1 - Original Plat with Detail, Right



Special Instructions

Special Instructions were prepared on May 19, 1971. They provided for the dependent resurvey of portions of five townships, including the resurvey of irregular Small Holding Claims, and the survey of several tracts. One such tract, located in section 24, T. 25 N., R. 8 E., was described in the Forest Service request as follows:

Sec. 24
Tract 9
A parcel of land more particularly described as:

Beginning at the NW corner of S.H.C. No. 499 thence along the west boundary of the claim, S. 60° 17' E., 0.97 chains; S. 54° 02' E. 1.77 chains; S. 07° 15' E., 3.14 chains to the SW corner of S.H.C. No. 499 and the NW corner of S.H.C. No. 4190; thence along the west boundary of S.H.C. No. 4190, S. 01° 17' E., 3.28 chains; S. 01° 13' W., 9.35 chains to the SW corner of the claim and the NW

corner of Tract 1 S.H.C. No. 1147; thence along the west boundary of Tract 1, S. 22° 44' W., 2.31 chains to the SW corner and the NW corner of S.H.C. No. 982; thence along the west boundary of the claim S. 08° 35' E. 6.47 chains to the SW corner and the NW corner of Tract 2 S.H.C. No. 1147; thence along the west boundary of the claim S. 34° 38' W., 1.69 chains; S. 01° 14' E., 2.61 chains to the SW corner of Tract 2 S.H.C. No. 1147 and the NW corner of Tract 1, S.H.C. No. 1130; thence along the west boundary of Tract 1, S. 02° 31' W. 2.84 chains; S. 00° 27' W., 4.59 chains to the SW corner of the claim and the NW corner of Tract 3 S.H.C. No. 1147; thence along the west boundary of Tract 3, S. 19° 00' E., 1.85 chains; S. 55° 31' E., 2.19 chains; S. 69° 10' E., 2.82 chains to the NW corner of Tract 1 S.H.C. No. 985; thence along the west boundary of Tract 1, S. 26° 26' W. 4.75 chains;

S. 26° 58' W., 6.81 chains to the SW corner of the claim and the NW corner of Tract 1 S.H.C. No. 1132; thence along the west boundary of S.H.C. No. 1132, S. 39° 21' W., 5.02 chains to the SW corner; thence N. 01° 50' 54" E. 55.44 chains to the NW corner of S.H.C. No. 499 and the point of beginning, containing 18.31 acres, more or less.

The surveyor was instructed to resurvey the necessary boundaries of the Small Holding Claims and survey the described tract. The field work was assigned to a cadastral surveyor and work began on May 24, 1971.

Reasons for Request of this Survey

Most of the public lands within T. 25 N., R. 8 E., are in the Jemez National Forest. The Forest Service had accepted proposals for land exchanges within the forest for administrative purposes and consolidation of ownerships. One such exchange parcel is located in section 24 with others in sections 2 and 14. A tract survey is needed to properly describe the lands to be patented under the exchange agreement(s).

1858

1882

1906

FOREST EXCHANGE TRACT SURVEY, NEW MEXICO

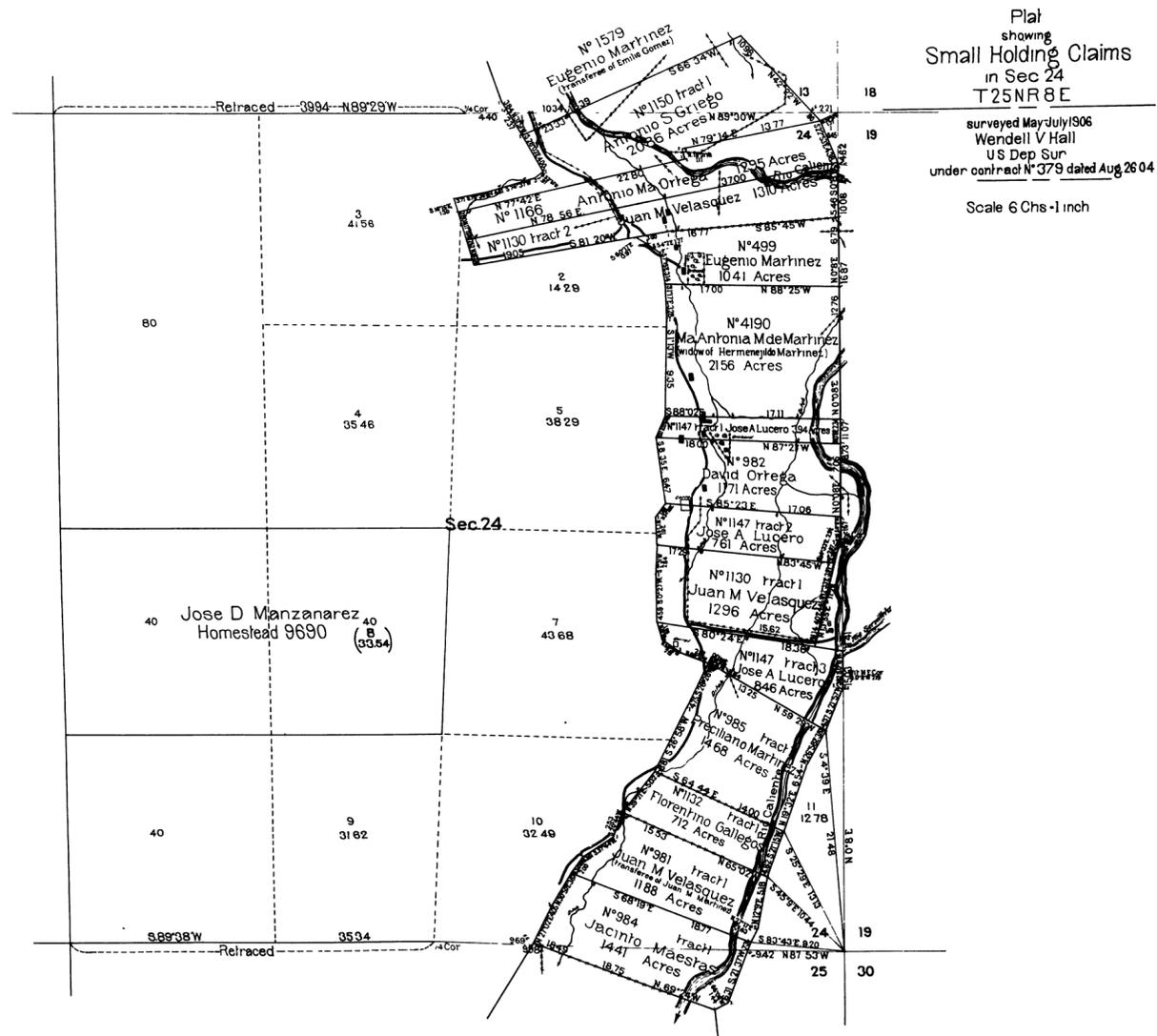


Figure 2 - Small Holding Claims in Section 24 With Detail

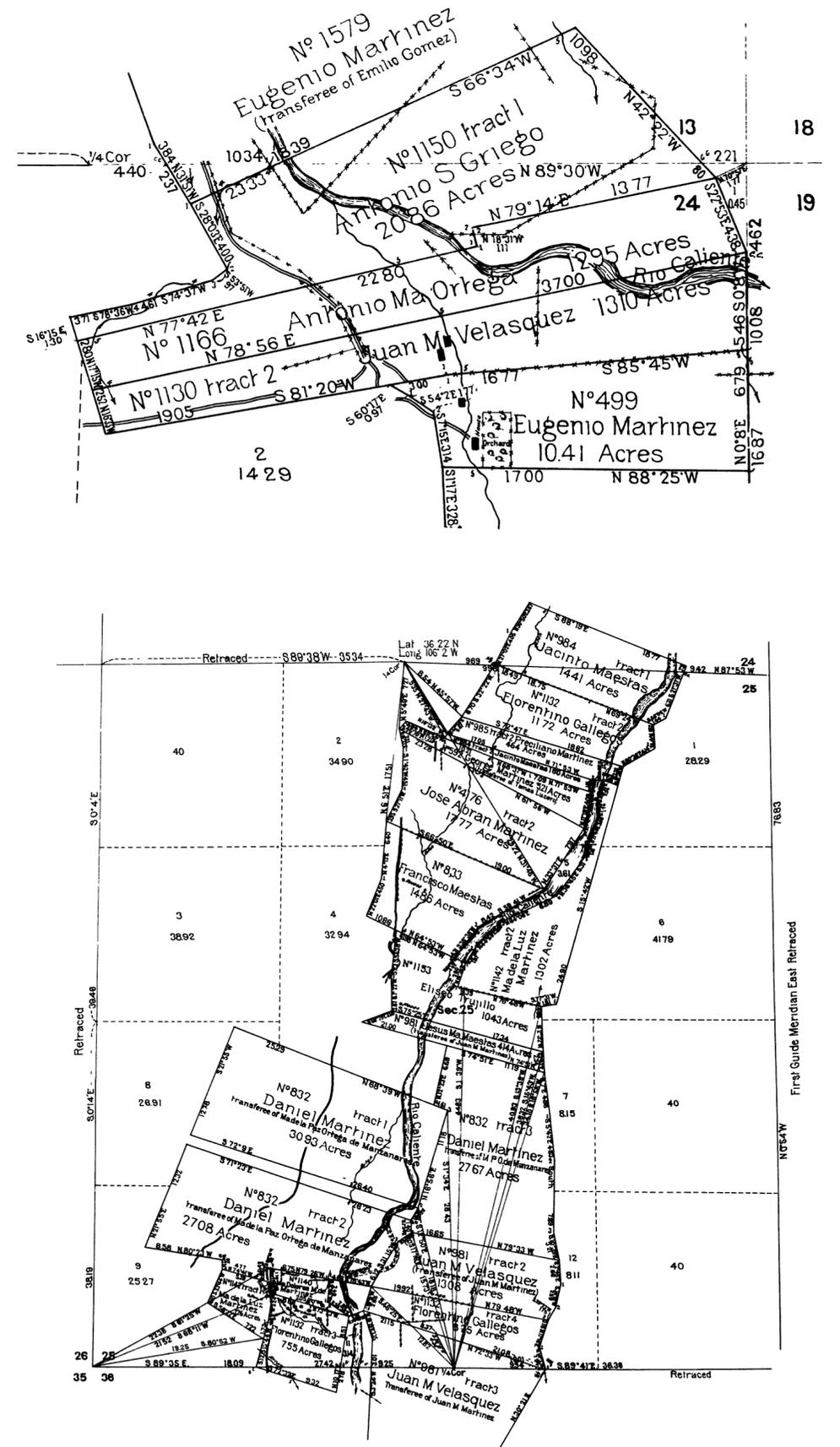


Figure 3 - Small Holding Claims in Section 25

FOREST EXCHANGE TRACT SURVEY, NEW MEXICO

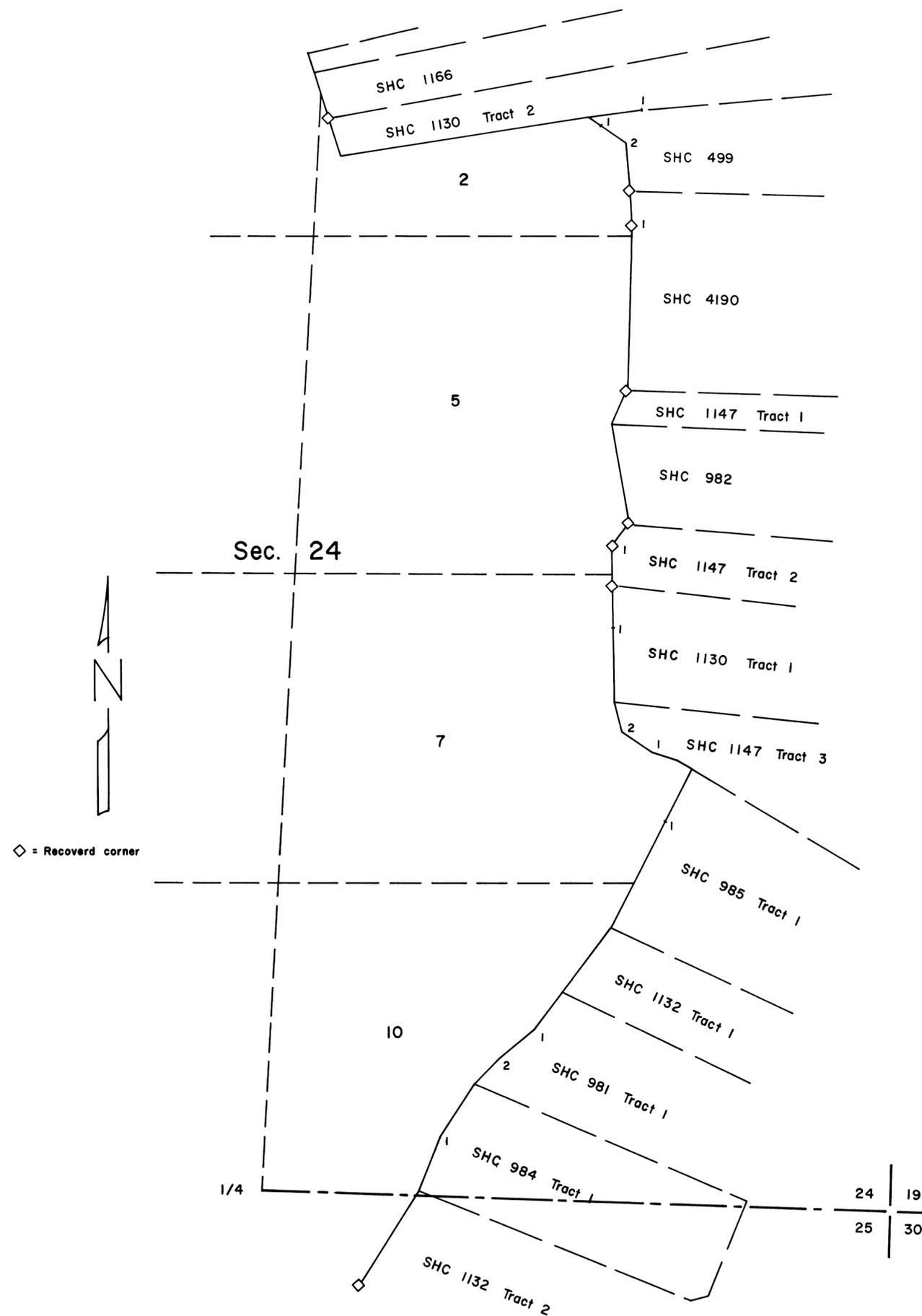


Figure 4 - Corner Recovery Diagram

Conditions Found on the Ground

Figure 4 shows the boundaries of the small holding claims which were retraced and the original corners which were recovered. Most of the recovered corners had been remonumented in 1962. The record courses and distances were retraced and the recovered corners were found within a few links of the record position, as measured from the previously recovered corner. The 1906 survey had been carefully executed. The village of La Madera, New Mexico, is located on the Small Holding Claims and most of the lost corners were probably lost due to fence and building construction.

Preliminary Statement of Problem

The lost corners of the small holding claims must be restored before the described exchange tract can be surveyed.

Regulations

The following sections of the Manual of Surveying Instructions, 1973, are directly applicable.

- 5-44 Grant boundaries
- 7-16 Metes and bounds surveys

Legal Constraints

The restoration of the lost corners of the Small Holding Claims must not in any way impair the bona-fide rights of the claimants.

Final Statement of the Problem

The surveyor must restore the lost corners by proportionment and then survey the described tract.

Solution

The record courses and distances of the Small Holding Claims were closely verified by the recovered original monuments. In most instances the linear measurements were the same, with only a few minutes rotation in bearing to effect a closure.

The lost corners were restored by the Grant Boundary adjustment. After the adjustment, further search for evidence of the original monuments was made. At the northwest corner of SHC No. 499, an old railroad spike was found a few inches below the surface of the ground. This was accepted as conclusive evidence of the original corner point on the southerly line of SHC No. 1130, Tract 2. That point was remonumented with the brass cap marked for Angle Point No. 1 of Tract 41, and the corner of SHC 1130, Tract 2 and SHC 499. (Tract No. 40 was assigned to an exchange tract surveyed in section 2).

A straight line was surveyed from Angle Point No. 1 to the restored northwest corner of SHC No. 981, Tract 1, identical with the southwest corner of SHC No. 1132, Tract 1. This SHC corner was remonumented and marked for the corners of the SHC's and Angle Point No. 2 of Tract 41. The corners and angle points of the SHC's were designated as angle points of Tract 41, in numerical order.

A witness point was set at midpoint on the line between AP1 and AP2 of Tract 41.

The plat was accepted April 5, 1973 and is shown in figure 5.

