



Location is the Red Amphitheater above Buckskin Gulch and at timberline looking to the northwest at Mt. Democrat.

ADVANCED TOPICS AND CASE HISTORIES IN MINERAL SURVEY RESURVEYS

Discrepancies in the official record

- 1. Retracement vs. dependent resurvey**
 - a. Once a patent is issued, the General Land Office no longer had authority over the disposed land, therefore the Land Office was not able to instruct the mineral surveyor to reestablish lost, missing or destroyed corners of prior official surveys**
 - b. Prior official surveys were only retraced by the mineral surveyor**
 - c. Recognizing when the record positions of prior surveys were shown on the plat**
 - i. Before 1899 (no formal instructions or circulars)**
 - ii. 1899-1904 (patent descriptions hold over found monuments)**
 - iii. After 1904 (Report or Other Corner Descriptions)**

Cor. No. 3, Privateer Lode, Sur. No. 2541 looking to the east-northeast at Mt. Silverheels.

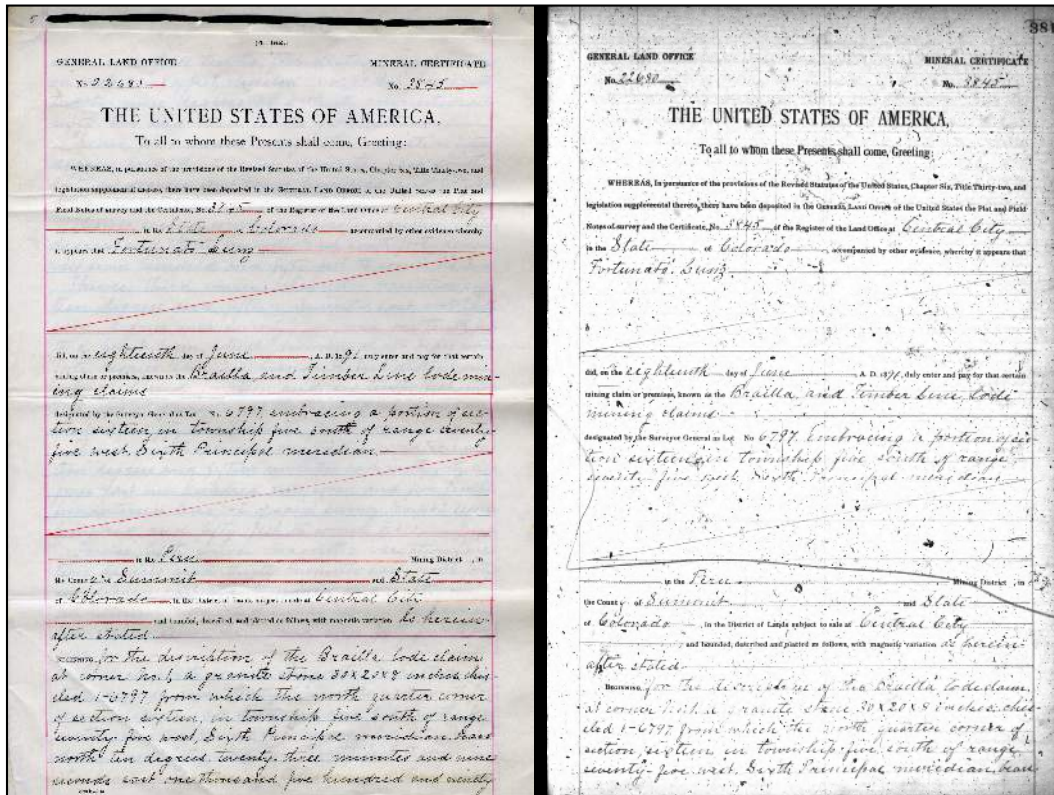
MINERAL LANDS PATENT EXAMPLES

Normally there are two sources for U.S. patents of mineral lands. The Register of the General Land Office in Washington, D.C. had a copy transcribed prior to sending the patent to the U.S. Surveyor General. The state BLM public rooms have aperture cards and the GLO Records web site has scanned images of this transcribed GLO copy for selected states.

The patent was sent to the U.S. Surveyor General who forwarded it to the patentee. The patentee often recorded the patent at the county clerk and recorder office. Therefore, two transcribed copies of the patent are usually available to the land surveyor. Because these are transcribed, there can be scrivener's errors. The patent application includes a transcribed copy of the field notes. The Land Entry Case File can be obtained from the National Archives to check if the error is in the original patent or if the error occurs in the transcriptions by the GLO or county clerk and recorder.

Area.	
Total area Braille lode.	5.165 acres
Area in conflict with	
Sur. No. 462.	0.044 "
" .. 471	0.355 "
Timber Line lode.	0.130 "
<hr/>	
Total area Braille lode.	5.165 acres
Less area in conflict with	
Sur. No. 462	0.044 acre
" .. 471	0.355 " = 0.399 "
Net area Braille lode.	4.766 acres
Total area Timber Line lode.	5.165 acres.
Less area in conflict with	
Braille lode.	0.130 "
Net area Timber Line Lode.	5.035 acres
" .. Braille "	4.766 "
Net area of lode claim	9.801 acres.

The "Area" section of the official field notes lists the Braille Lode in conflict with the Flag Staff Lode, Sur. No. 462, Savage Lode, Sur. No. 471, and the Timber Line Lode. Since the Braille Lode is senior to the Timber Line Lode, the area of conflict (0.130 acres) is deducted from the total area of the Timber Line Lode. The net area of the two lode claims is 9.801 acres.



Patent for the Braille and Timber Line lode claims, Sur. No. 6797. The Mineral Entry No. is 3845 - date June 18, 1891 and the Patent No. is 22680 - date April 5, 1893.

The next five images show the original patent on the left side and the General Land Office transcribed copy on the right side of the images. The handwriting indicates that both were written by the same person. There are often three versions of a patent: one is the original that was sent to the patentee, second is the transcribed GLO copy that was kept in Washington D.C., and third the patentee would often have a transcribed copy recorded at the county clerk and recorder's office.

Information related to the patent is available on the GLO Records web site under "Land Patents" and scanned copies of patents issued prior to July 1, 1908 are under "Control Document Index Records." If the patent is not available online, scanned copies can be obtained at the BLM state public room.

...and three tenths feet distant, and a second ...
...each six and one fourth feet distant ...
...twenty seven degrees and thirty minutes each ...
...each two and three tenths feet distant.

...second course magnetic variation fifteen ...
...degrees and thirty seven minutes east south ...
...forty six degrees with seven hundred and fifty feet ...
...to corner No. 2.

...third course magnetic variation fifteen ...
...degrees and thirty seven minutes east south forty ...
...degrees with seven hundred and fifty feet to corner No. 3.

...fourth course magnetic variation fifteen ...
...degrees and thirty seven minutes east south forty ...
...degrees with seven hundred and fifty feet to corner ...
...No. 4. The Flag Staff pole claim, one ...
...hundred and fifty and two tenths feet to corner No. 4.

...fifth course magnetic variation fifteen ...
...degrees and thirty seven minutes east south forty ...
...degrees with seven hundred and fifty feet to corner ...
...No. 5.

...sixth course magnetic variation fifteen ...
...degrees and thirty seven minutes east south forty ...
...degrees with seven hundred and fifty feet to corner ...
...No. 6.

...seventh course magnetic variation fifteen ...
...degrees and thirty seven minutes east south forty ...
...degrees with seven hundred and fifty feet to corner ...
...No. 7. The place of beginning, the survey of the land is

...with two degrees twenty three minutes and one ...
...seconds east one thousand five hundred and ...
...ninety seven and three tenths feet distant, and ...
...a pole one inch and one fourth feet distant, and ...
...with twenty seven degrees and thirty minutes ...
...east sixty two and three tenths feet distant.

...second course magnetic variation fifteen ...
...degrees and thirty seven minutes east south forty ...
...degrees with seven hundred and fifty feet to ...
...corner No. 2.

...third course magnetic variation fifteen ...
...degrees and thirty seven minutes east south forty ...
...degrees with seven hundred and fifty feet to corner ...
...No. 3.

...fourth course magnetic variation fifteen ...
...degrees and thirty seven minutes east south forty ...
...degrees with seven hundred and fifty feet to corner ...
...No. 4. The Flag Staff pole claim, one ...
...hundred and fifty and two tenths feet to corner No. 4.

...fifth course magnetic variation fifteen ...
...degrees and thirty seven minutes east south forty ...
...degrees with seven hundred and fifty feet to corner ...
...No. 5.

...sixth course magnetic variation fifteen ...
...degrees and thirty seven minutes east south forty ...
...degrees with seven hundred and fifty feet to corner ...
...No. 6.

...seventh course magnetic variation fifteen ...
...degrees and thirty seven minutes east south forty ...
...degrees with seven hundred and fifty feet to corner ...
...No. 7. The place of beginning, the survey of the land is

above described extending one thousand five hundred feet in length along said Braille run or ledge. Beginning for the description of the timber line ledge similar corner to a granite stone 24 x 18 x 12 inches drilled 7-0777 from which corner lead of this survey base south seventy six degrees and fifteen minutes each twenty five feet distant.

Thence first course, magnetic variation sixteen degrees and fifteen minutes east, north forty three degrees and one thousand feet to corner No. 8.

Thence second course, magnetic variation fifteen degrees and forty minutes east, south fifty eight degrees and thirty minutes each one hundred and fifty three feet to corner No. 9.

Thence third course, magnetic variation sixteen degrees and forty minutes east, south forty three degrees and one thousand feet to corner No. 10.

Thence fourth course, magnetic variation sixteen degrees east, south seventy degrees each five hundred feet to corner No. 11.

Thence fifth course, magnetic variation sixteen degrees and forty minutes east, south fifty eight degrees and thirty minutes each one hundred and fifty three feet to a point from which discovery set base, south twenty degrees east three hundred and ten feet distant, one hundred and fifty three feet to corner No. 12.

Thence sixth course, magnetic variation sixteen degrees and forty minutes east, south twenty degrees each five hundred feet to corner No. 13. The place of beginning, the survey of the ledge or stone described extending one thousand five hundred feet in length along said timber line run or ledge, expressly excepting and excluding from this

one thousand five hundred feet in length along said Braille run or ledge.

Beginning for the description of the timber line ledge similar corner to a granite stone 24 x 18 x 12 inches drilled 7-0777 from which corner lead of this survey base south seventy six degrees and fifteen minutes each twenty five feet distant.

Thence first course, magnetic variation sixteen degrees and fifteen minutes east, south forty three degrees and one thousand feet to corner No. 8.

Thence second course, magnetic variation fifteen degrees and forty minutes east, south fifty eight degrees and thirty minutes each one hundred and fifty three feet to corner No. 9.

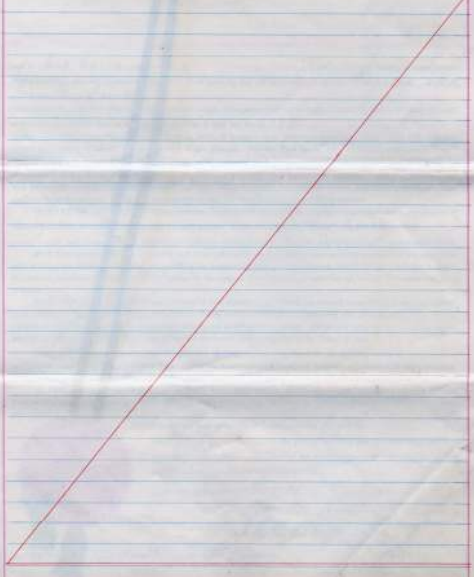
Thence third course, magnetic variation sixteen degrees and forty minutes east, south forty three degrees and one thousand feet to corner No. 10.

Thence fourth course, magnetic variation sixteen degrees east, south twenty degrees each five hundred feet to corner No. 11.

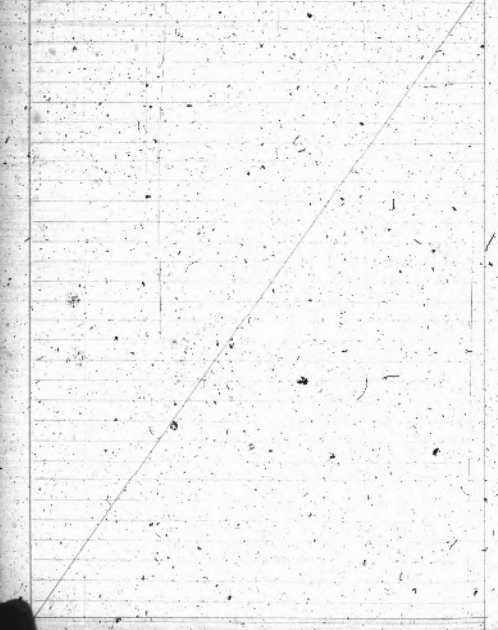
Thence fifth course, magnetic variation sixteen degrees and forty minutes east, south fifty eight degrees and thirty minutes each one hundred and fifty three feet to a point from which discovery set base, south twenty degrees east three hundred and ten feet distant, one hundred and fifty three feet to corner No. 12.

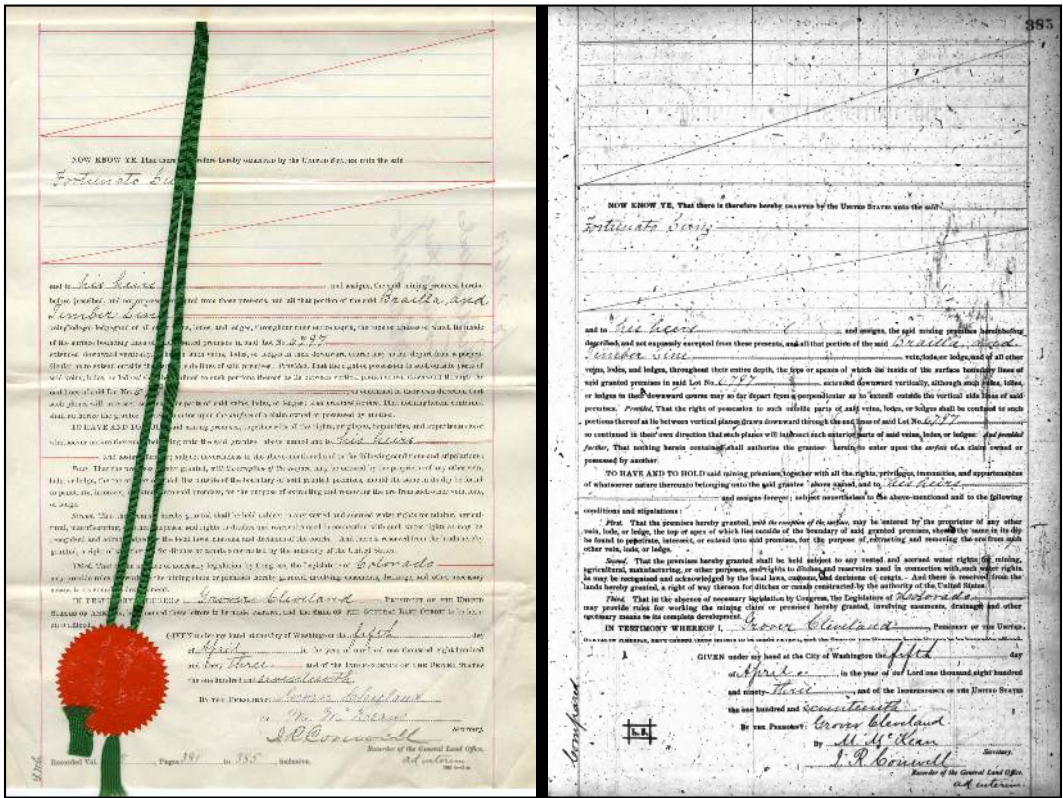
Thence sixth course, magnetic variation sixteen degrees and forty minutes east, south twenty degrees each five hundred feet to corner No. 13. The place of beginning, the survey of the ledge or stone described extending one thousand five hundred feet in length along said timber line run or ledge, expressly excepting and excluding from this

includes all that portion of the ground herein
before described, embraced in said mining claim
or surveys Nos. 262 and 271, and also all veins,
lodes and ledges throughout their entire
depth the top or apex of which lie inside of
such excluded ground, the granted premises
in said lot No. 6797 containing more or less
eighty hundredths of an acre of land, more or
less.



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survey Nos. 262 and 271, and also all veins, lodes
and ledges throughout their entire depth, the
top or apex of which lie inside of such excluded
ground, the granted premises in said lot No.
6797 containing more or less eighty hundredths
of an acre of land, more or less.





The lower left of the original patent lists that the patent was "Recorded Vol. 225, Pages 381 to 385 inclusive." This refers to the General Land Office volume housed in Washington D.C.

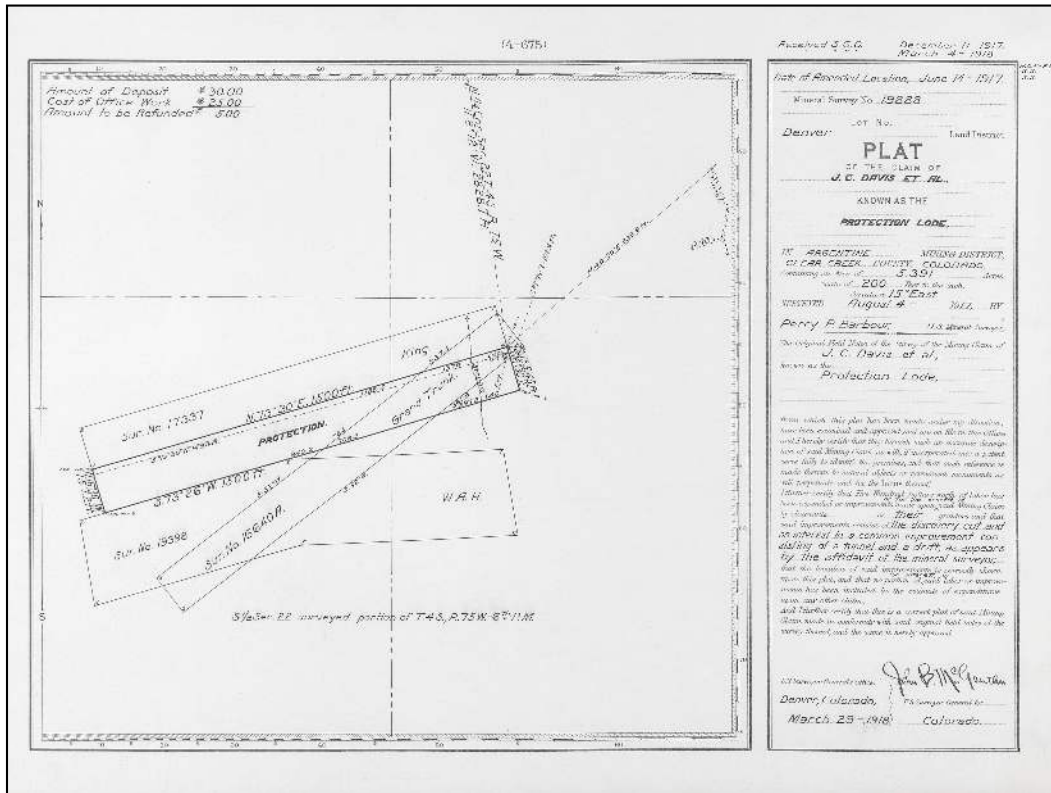
Note: The page numbers 381 through 385 match the page numbering of the GLO transcribed copy of the patent shown above.

Third, sixth course, magnetic variation thirteen degrees and forty minutes east, north twenty degrees east five hundred feet to corner no. 5, the place of beginning; the survey of the lode as above described extending one thousand five hundred feet in length along said Timber Line vein or lode. Expressly excepting and excluding from these presents all that portion of the ground, hereinbefore described, embraced in said mining claims or surveys nos. 462 and 471, and also all veins, lodes and ledges throughout their entire depth, the tops or apices of which lie inside of such excluded ground; the granted premises in said lot no. 6797 containing nine acres and eighty hundredths of an acre of land, more or less.

Since lode mining claims are designed to obtain rights to the subsurface mineral estate, the staked locations often overlap with other lode claims. This is the rule rather than the exception. For mineral surveys with lode claims that are junior in right to prior official surveys the patent will contain a unique clause that is after the metes-and-bounds description. This is the, "expressly excepting and excluding" clause which lists all conflicts that are *not* to be included in the patent.

For the patent of the Braila and Timber Line lode claims, the expressly excepting and excluding clause lists Surs. Nos. 462 and 471. The above excerpt from the patent is from the bottom of Page 3 and top of Page 4 of the patent.

Note: The area conveyed in the patent is 9.80 acres and agrees with the net acreage listed in the Areas section of the official field notes (9.801 acres).



The plat of the Protection lode, Sur. No. 19888 showing two adjoining lode claims that share common side lines and an overlap with the Grand Trunk Lode Claim, Sur. No. 16640A.

LODE LINE.

As near as can be determined from present developments the Protection lode extends N. 73° 30' E. 6ft. and S. 73° 30' W. 1494 ft. from face of discovery cut.

AREA.

Total area Protection lode 5.391 acres

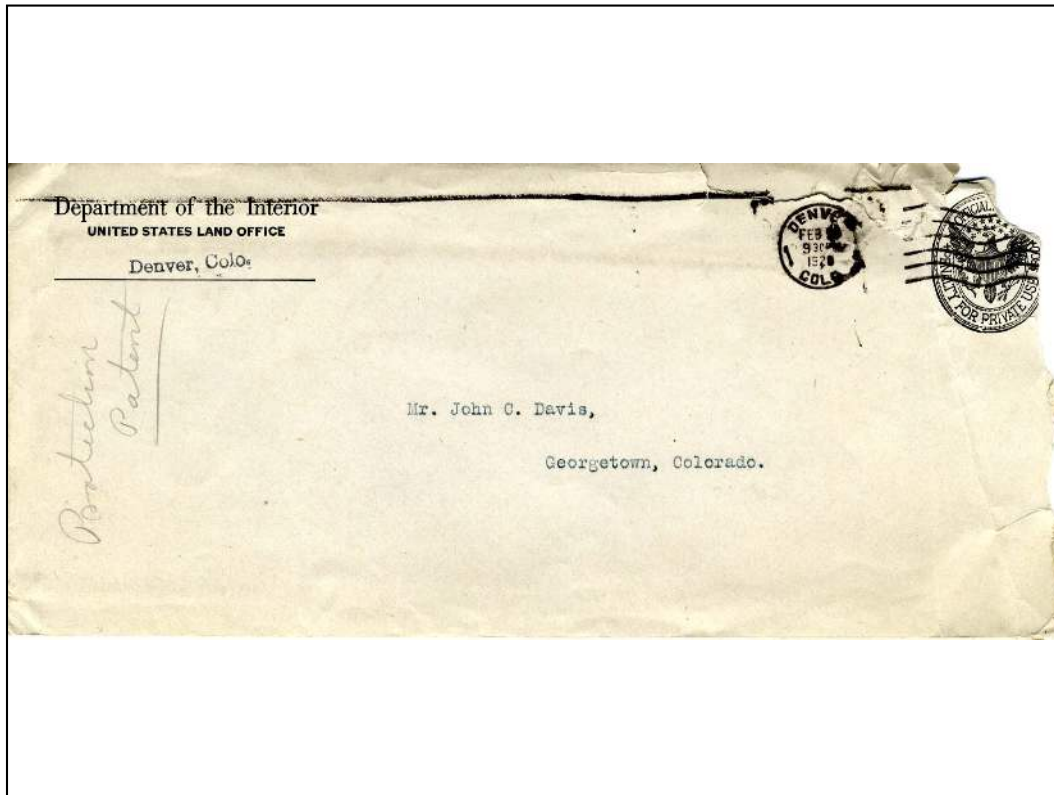
Area in conflict with
 Sur. No. 16640 A, Grand Trunk lode 1.427 "

The survey of the Protection lode is identical with the amended location as staked on the ground.

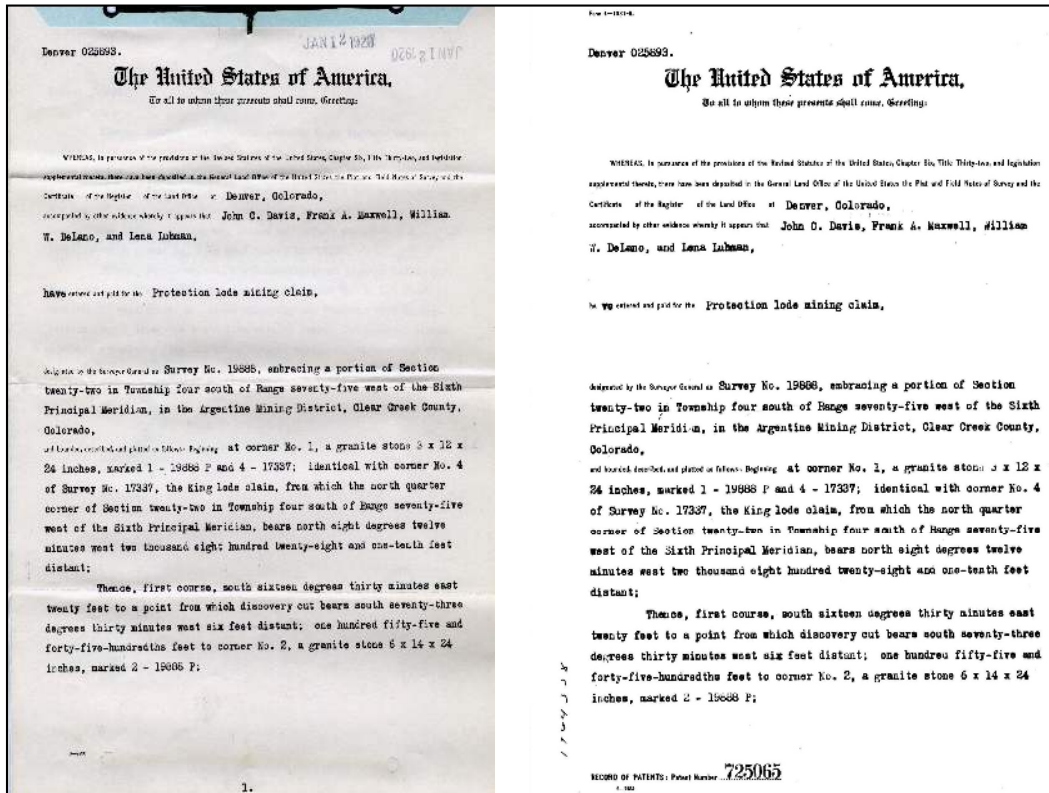
LOCATION.

This survey is located in the S. 1/2 of Sec. 22 surveyed portion of T. 4 S., R. 75 W. of 6th. P. M.

The "Area" section of the official field notes lists a total area of 5.391 acres for the Protection Lode with an area in conflict with the Grand Trunk Lode of 1.427 acres. No net area of the Protection Lode is given.

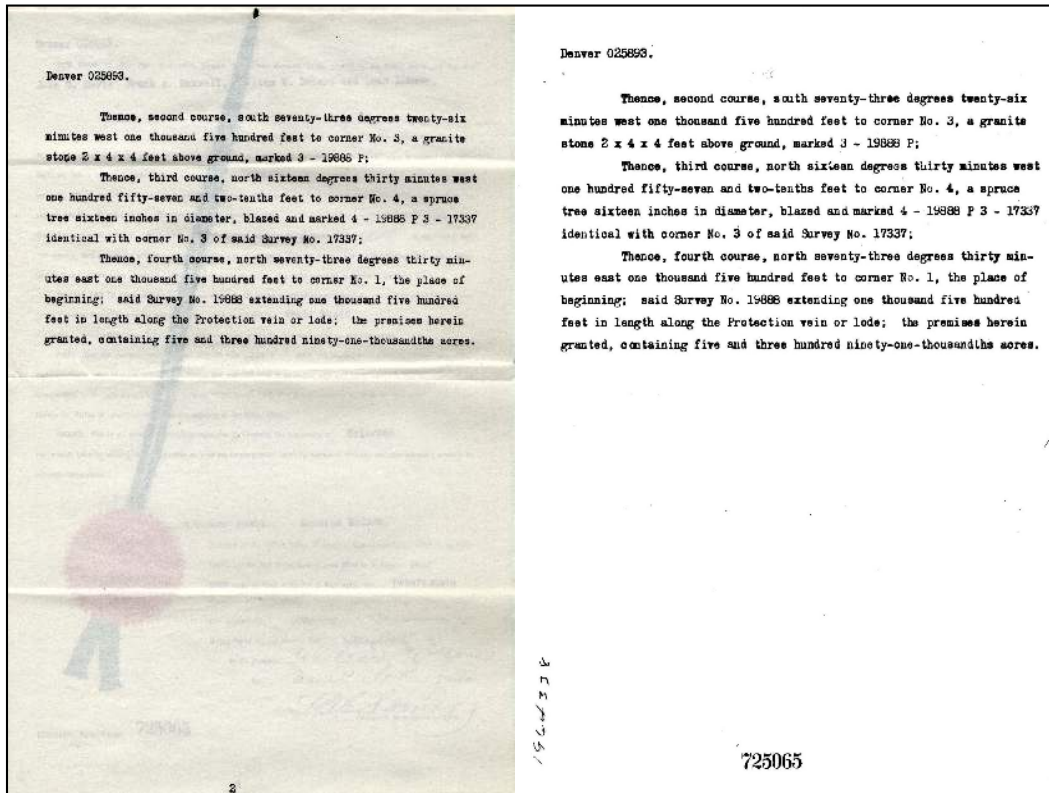


Envelope containing the original patent mailed from the Dept. of the Interior, United States Land Office, Denver, Colo. to the patentee, Mr. John C. Davis, Georgetown, Colorado. Patents were sent from the Washington D.C. General Land Office to the local Land Office and then mailed to the patentee.



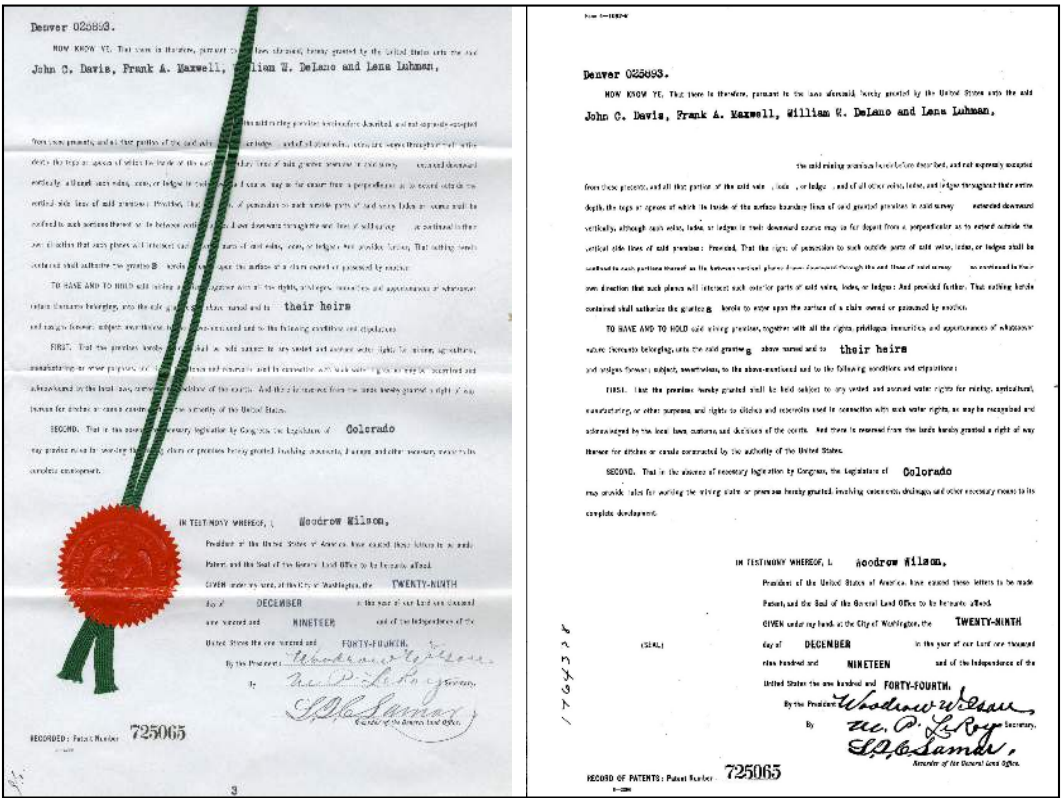
Patent for the Protection lode claim, Sur. No. 19888, Mineral Entry No. 025893 (no date of mineral entry listed in patent), and Patent No. 725065 - date December 29, 1919. The next three images show the original patent on the left side and the General Land Office transcribed copy on the right side of the images. The stamped date on the original patent of Jan 12, 1920 likely indicates the date that the patent was mailed to or received by the Denver, Colorado Land Office.

Scanned copies of the patents issued after July 1, 1908 are available on the GLO Records web site under "Land Patents." If the patent is not available online, scanned copies can be obtained at the BLM state public room.



Note: Despite the plat and official field notes showing a conflict with the Grand Trunk Lode, Sur. No. 16640A, the patent does not include an “expressly excepting and excluding” clause after the metes-and-bounds description. The acreage granted in the patent is 5.391 acres which is the same as the total acreage of the Protection Lode listed on the plat and in the field notes.

The Grand Trunk Lode was abandoned sometime between the date its mineral survey was approved (9/19/1903) and the amended location date of the Protection Lode (6/14/1917). The reason that the official field notes lists the area in conflict with the Grand Trunk is that the mineral surveyor was instructed to show all conflicts with prior official surveys whether they went to patent or were abandoned.



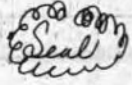
This page contains the standard language of a mineral lands patent along with the standard conditions and stipulations.

Note: The last condition and stipulation states, "That in the absence of necessary legislation by Congress, the Legislature of Colorado may provide rules for working the mining claim or premises hereby granted, involving easements, drainage, and other necessary means to its complete development." The Colorado General Assembly has enacted such rules.



Close-up view of official seal of the United States General Land Office affixed to last page of the patent.

and the Seal of the General Land Office to be hereunto affixed.



Given under my hand, at the City of
Washington, the twenty eighth day of
September in the year of our Lord one
thousand eight hundred and eighty,
and of the Independence of the United
States the one hundred and fifth.

By the President: R. B. Hayes

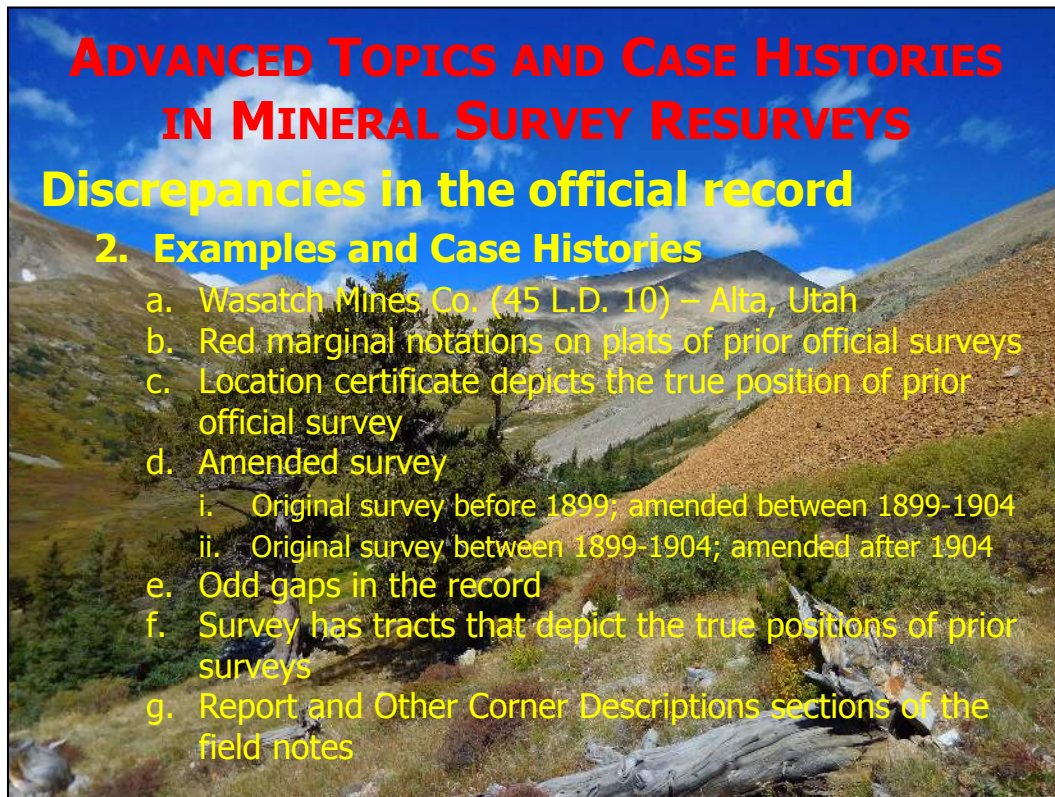
By Wm H. Crook Secretary

S. W. Stark Recorder of the General Land Office.

Recorded Vol. 53 Pages 184 to 189 inclusive.

Examined.

Example of the last page of the GLO transcribed copy of the patent where the volume and page numbers of a patent were listed. This notation was ended sometime in 1885.



**ADVANCED TOPICS AND CASE HISTORIES
IN MINERAL SURVEY RESURVEYS**

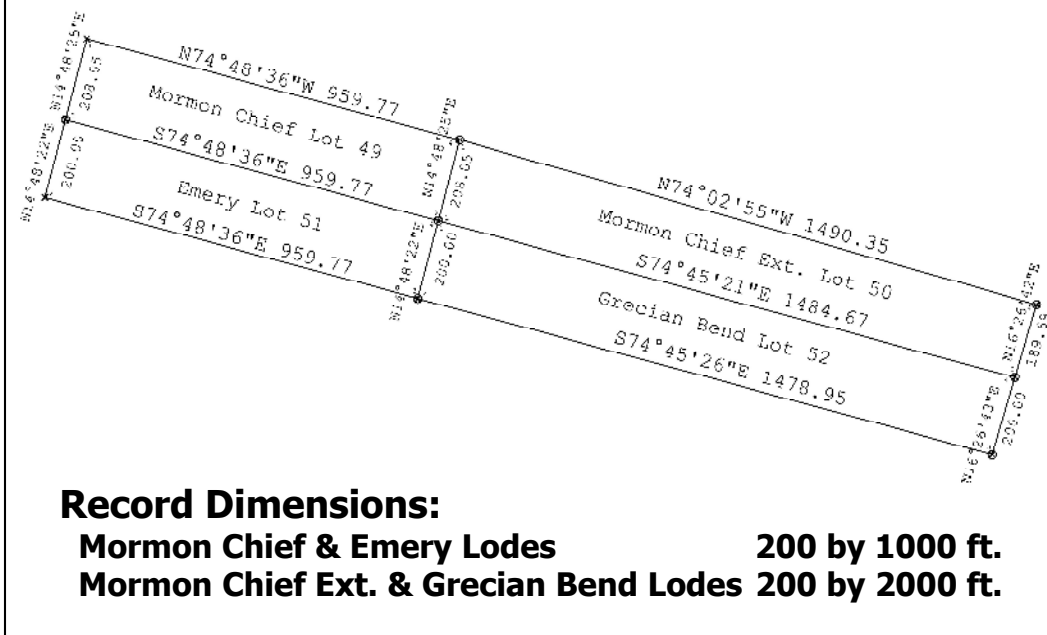
Discrepancies in the official record

2. Examples and Case Histories

- a. Wasatch Mines Co. (45 L.D. 10) – Alta, Utah
- b. Red marginal notations on plats of prior official surveys
- c. Location certificate depicts the true position of prior official survey
- d. Amended survey
 - i. Original survey before 1899; amended between 1899-1904
 - ii. Original survey between 1899-1904; amended after 1904
- e. Odd gaps in the record
- f. Survey has tracts that depict the true positions of prior surveys
- g. Report and Other Corner Descriptions sections of the field notes

Location is the Red Amphitheater above Buckskin Gulch and at timberline looking to the northwest at Mt. Democrat.

1880 Utah Mineral Surveys In the Camp Floyd Mining District



Because of terrain and other field conditions some mineral surveyors resorted to triangulation and other indirect methods to measure the lines of their surveys. This would occasionally result in large survey blunders.

The surveys of these four mineral surveys were done in one day by running the common side lines resulting in a blunder of over 550 ft. in what was supposed to be a line of 3000 ft. These blunders would then be perpetuated by subsequent surveyors who showed the record positions because they were unable to find the corners in their retracement of those senior claims.

Note: This first example of a discrepancy in the record is caused by a blunder in the use of an indirect measurement method such as triangulation. This blunder shows that the four claims were surveyed by indirectly running one of the side lines and stubbing out the end lines. Another example of where blunders often occur is when the mineral surveyor makes a tie to a nearby prior official survey and then computes the connection to the PLSS corner or U.S. Location Monument.

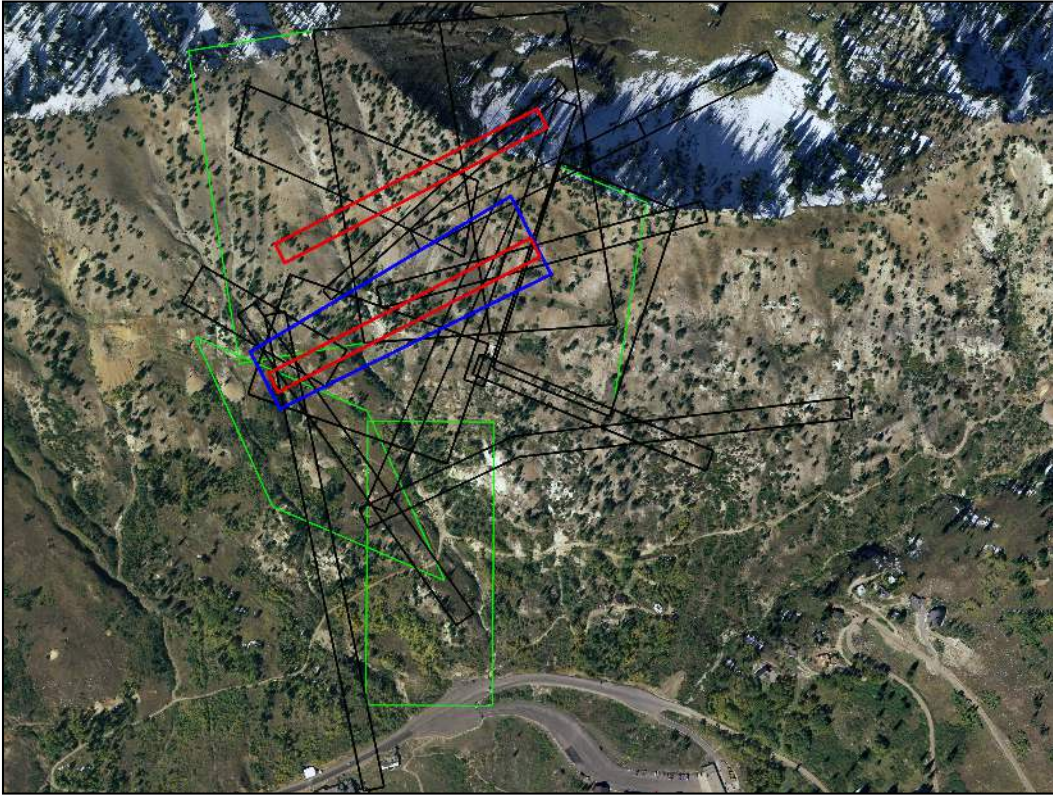
WASATCH MINING Co.
DOI 45 L.D. 10 – March 15, 1916

Where exclusions are made from mining claims of supposed conflicts with a prior patented claim, and the position of the prior patented claim as actually marked, defined and established upon the ground is not identical with its position as represented upon the plat and described in the field notes of survey, and the **supposed conflicts have no existence in fact**, the areas represented by such **theoretical exclusions** pass under the patents to the claims and are therefore not subject to appropriation by subsequent location.

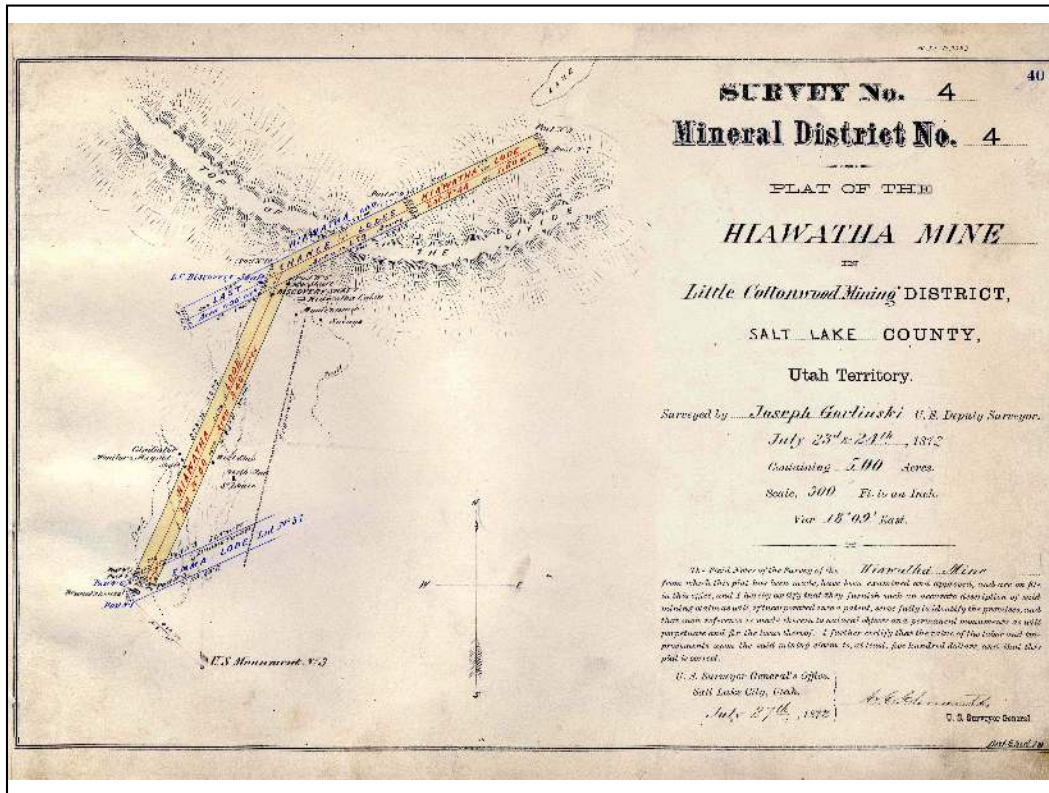
The Wasatch Mining Co. DOI Land Decision was issued in 1916. However, it dealt with an issue that began with a blundered connection to a U.S. Mineral Monument in a mineral survey conducted in 1876. U.S. Deputy Mineral Surveyors were required to retrace the lines of prior official surveys that were in conflict with their survey. If the mineral surveyor was unable to locate the corners of those prior official surveys, he was instructed to show their record positions on his survey. Official field notes approved prior to June 1899 do not usually state whether the record or monumented position of the prior official survey is shown.

Note:

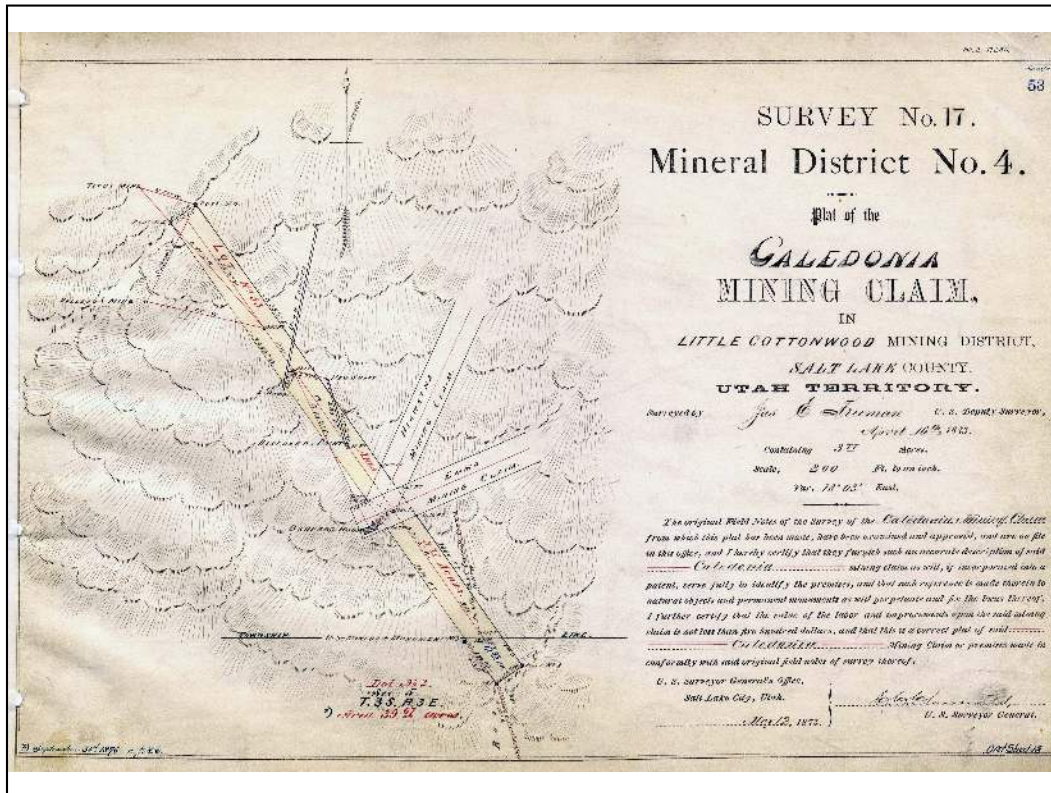
https://www.doi.gov/sites/doi.opengov.ibmcloud.com/files/uploads/doi_decisions_045.pdf (Page 35 of PDF file)



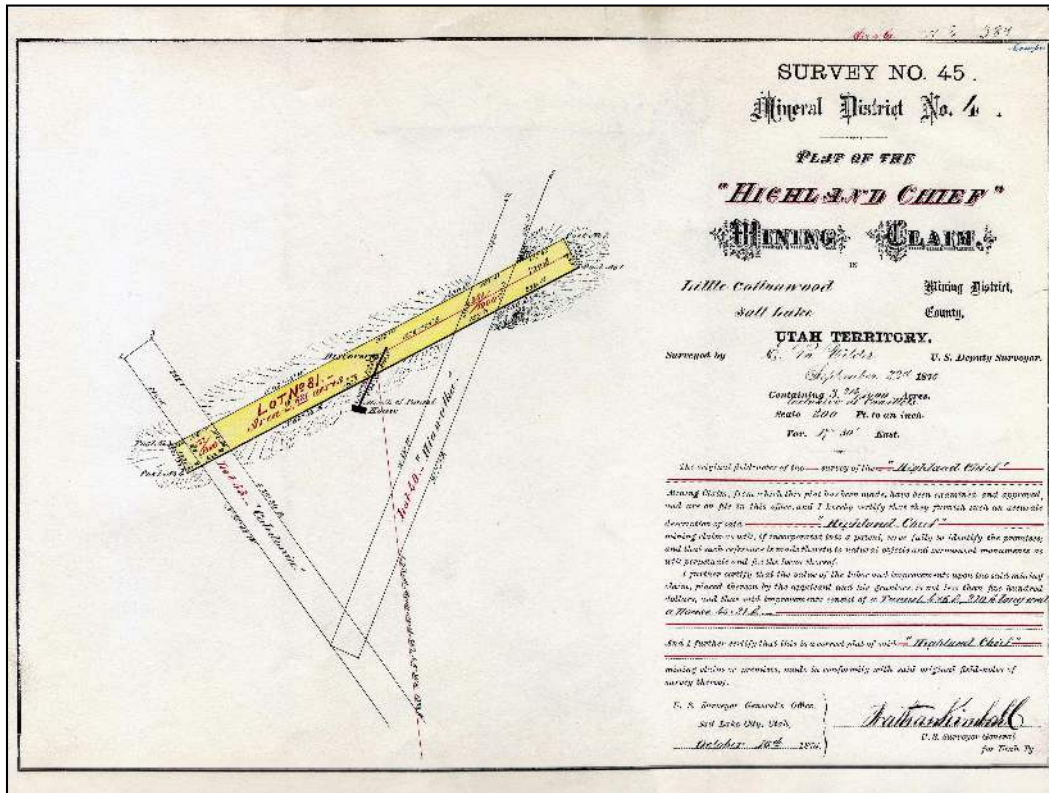
An aerial photograph showing several lode mining claims on a mountainside to the north of Alta, Utah. The green lines represent approved mineral surveys that never went to patent. The black lines are patented lode mining claims. The red lines show both the monumented position (top) and the record position (bottom) of the same claim, the Highland Chief. The blue lines are the outline of the Emma Nevada lode claim that was staked to claim the theoretical position of the Highland Chief that had been expressly excepted and excluded from several adjoining claims shown in black.



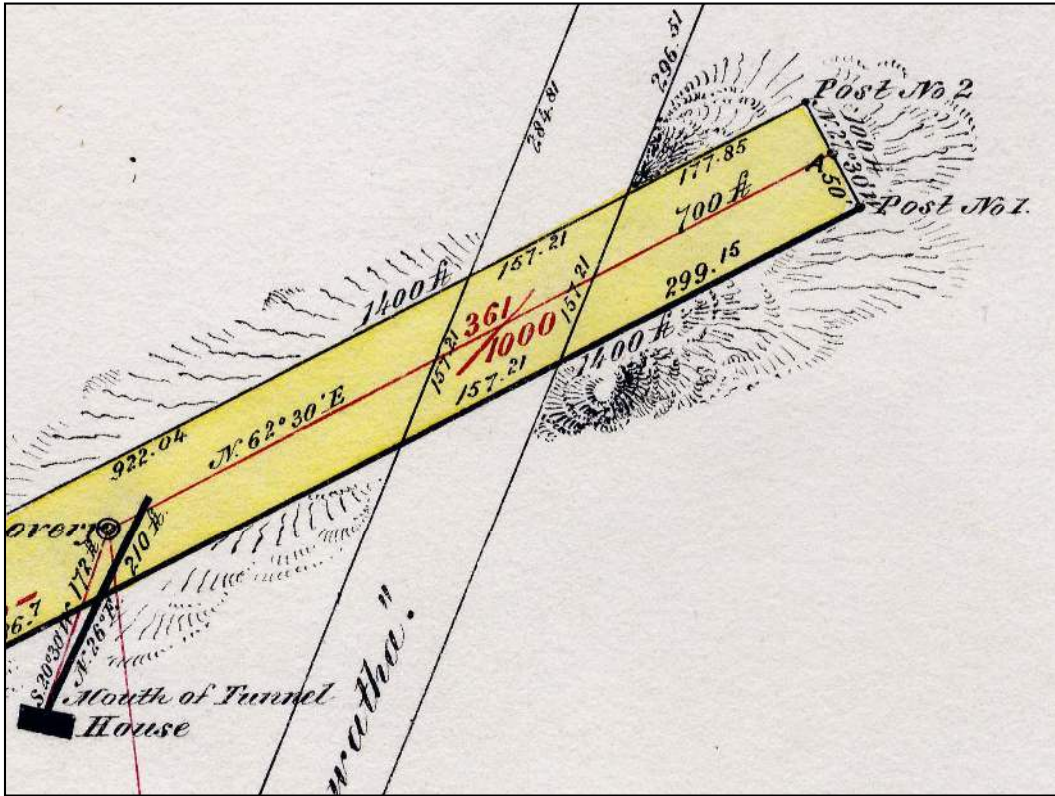
Plat of the Hiawatha Lode, Sur. No. 4, Lot No. 40 showing conflicts with the Emma Lode, Sur. No. 1, Lot No. 37 (first mineral survey in the Little Cottonwood Mining District), and the Last Chance Lode, Sur. No. 3, Lot 39. The plat indicates an area of 1.79 acres is shared by the Hiawatha and Last Chance lodes. Note the topographic call to the top of the divide and where it intersects the Hiawatha Lode and the connection to U.S. Monument No. 3 that was established during the survey of the Emma Lode, Sur. No. 1, Lot No. 37.



Plat of the Caledonia Lode, Sur. No. 17, Lot No. 53.
 Note the conflicts with the Emma and Hiawatha lodes and the connection to U.S Mineral Monument No. 3.

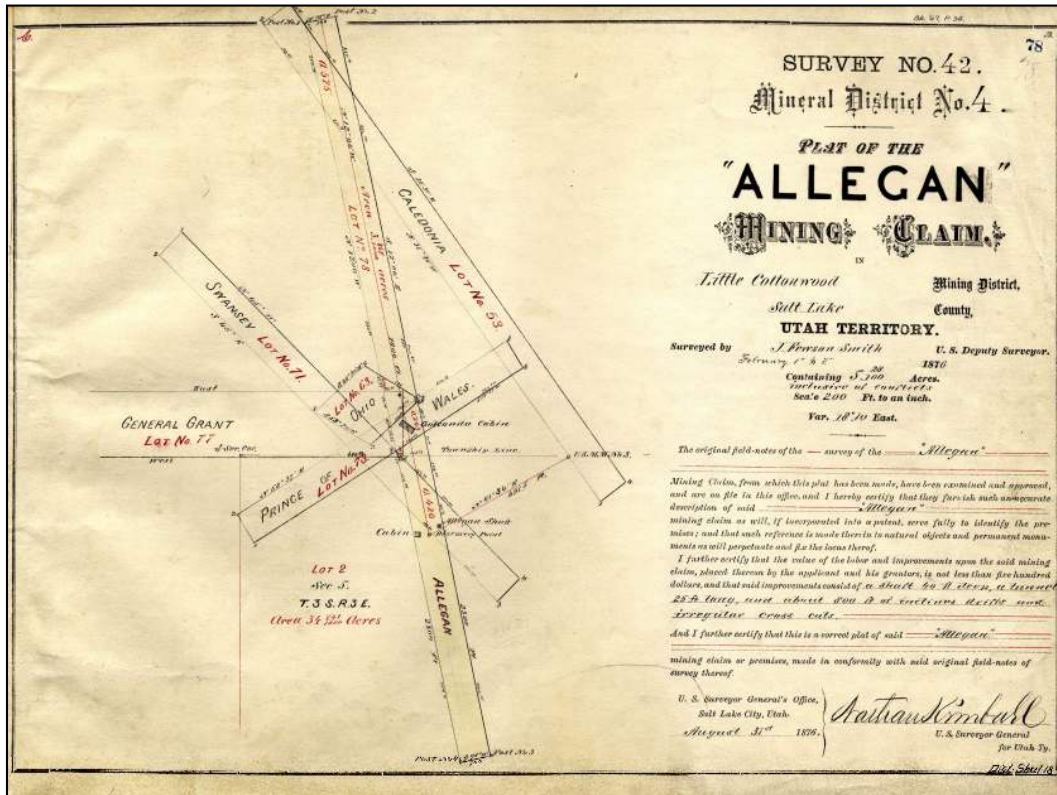


Plat of the Highland Chief Lode, Sur. No. 45, Lot No. 81. This survey was conducted by E.B. Wilder and approved on October 16, 1876. The connection to U.S. Mineral Monument No. 3 was apparently made by indirect means, most likely by triangulation. The tie is in error by approx. 600 feet and places the Highland Chief Lode's theoretical position downhill from its monumented position.

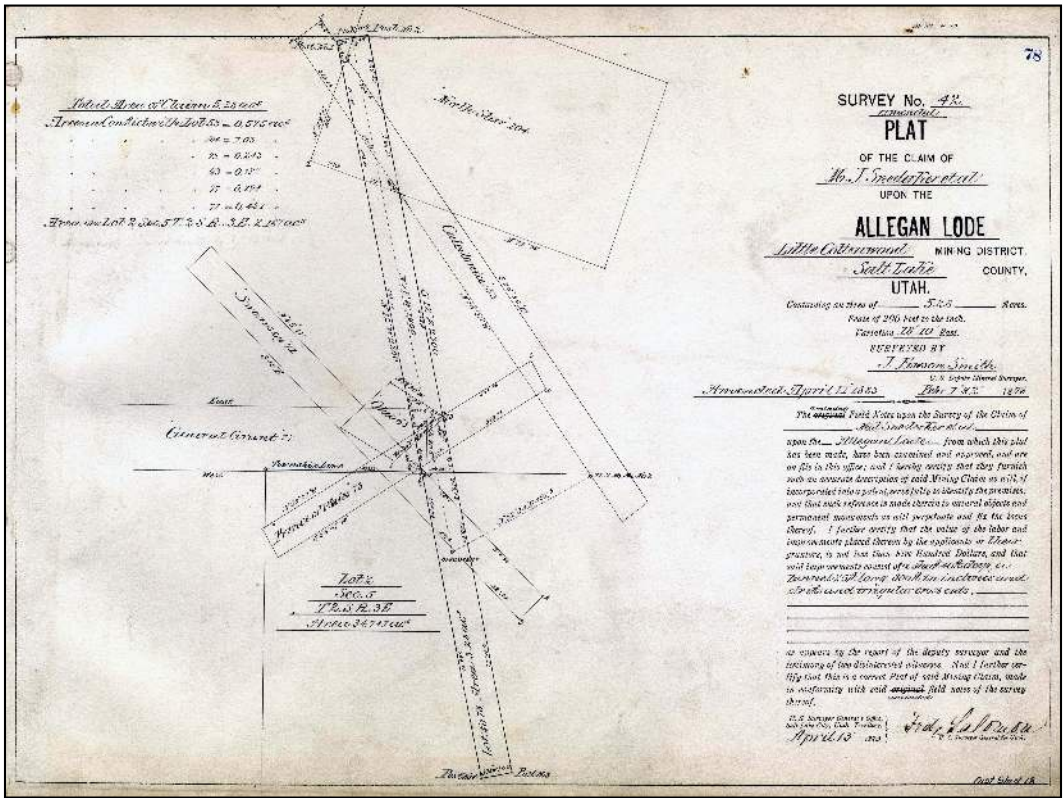


Close-up view of the Highland Chief Lode showing the conflict of 0.361 acres with the Hiawatha Lode. Since the Highland Chief is 600 feet up the mountainside, it does not actually conflict with the Hiawatha Lode.

Note: The topographic divide depicted on the Highland Chief plat does not match the topographic call as shown on the plat of the Hiawatha Lode. Also, the intersections between the two claims are shown to the nearest 0.01 foot and match exactly the intersections plotted from the record positions as computed through the connections to U.S. Mineral Monument No. 3.



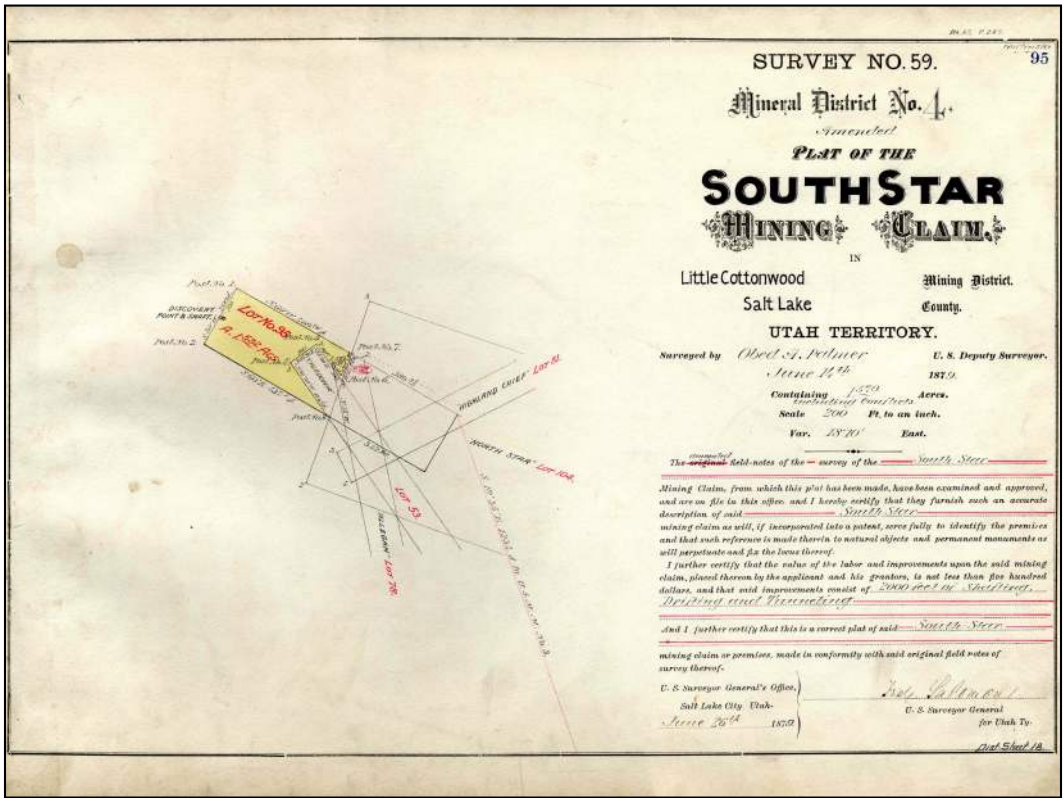
Plat of the original survey of the Allegan Lode, Sur. No. 42, Lot No. 78 showing conflicts with five lode claims.



Plat of the amended survey of the Allegan Lode, Sur. No. 42 Amended, Lot No. 78 showing conflicts with six lode claims. The Highland Chief's record position is not shown on the plat.

<u>Total Area of Claim 5.28 ac.^s</u>				
Area in Conflict with Lot 53 = 0.575 ac. ^s				
"	"	"	"	" 104 = 1.03 "
"	"	"	"	" 73 = 0.243 "
"	"	"	"	" 63 = 0.197 "
"	"	"	"	" 77 = 0.194 "
"	"	"	"	" 71 = 0.421 "
Area in Lot 2 Sec. 5 T. 2 S. R. 3 E. 2.167 ac. ^s				
<i>Area in conflict with Lot 2.167 ac.^s</i>				

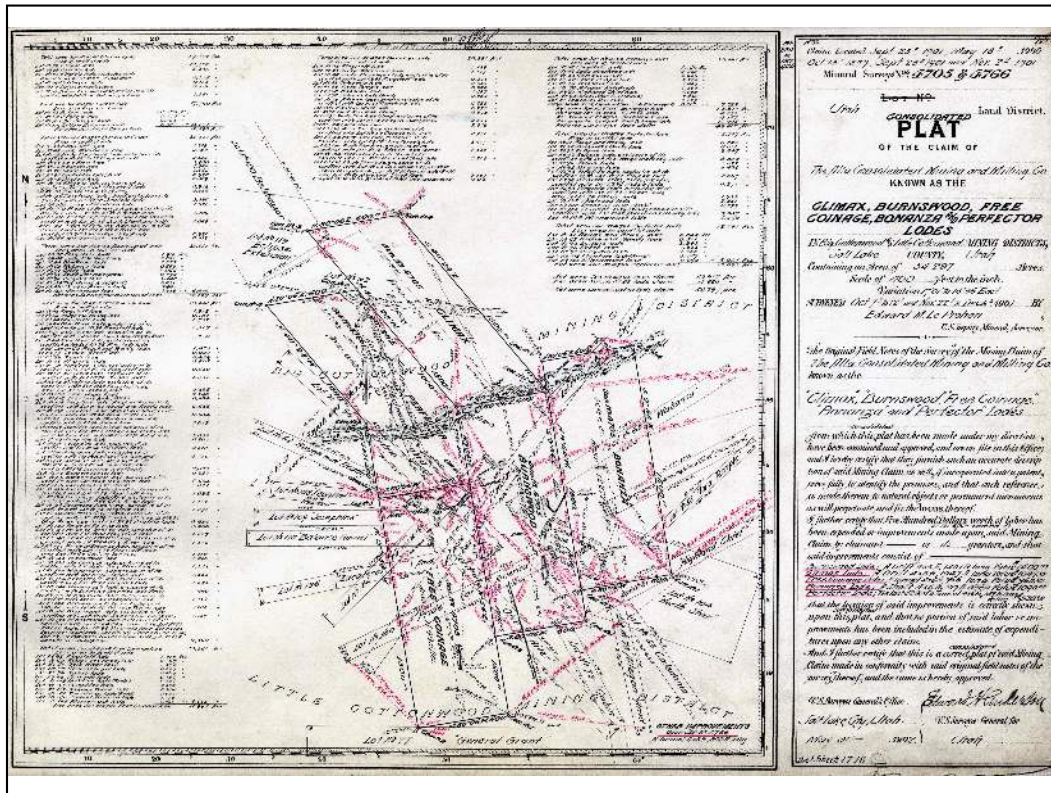
Close-up of the area computation table of the Allegan Lode amended survey. The patent description position of the Highland Chief is not listed as it is junior in right to the Allegan Lode.



Plat of the South Star Lode, Sur. No. 59, Lot No. 95 showing conflicts with the Caledonia, Allegan, and North Star lodes and the theoretical position of the Highland Chief Lode.

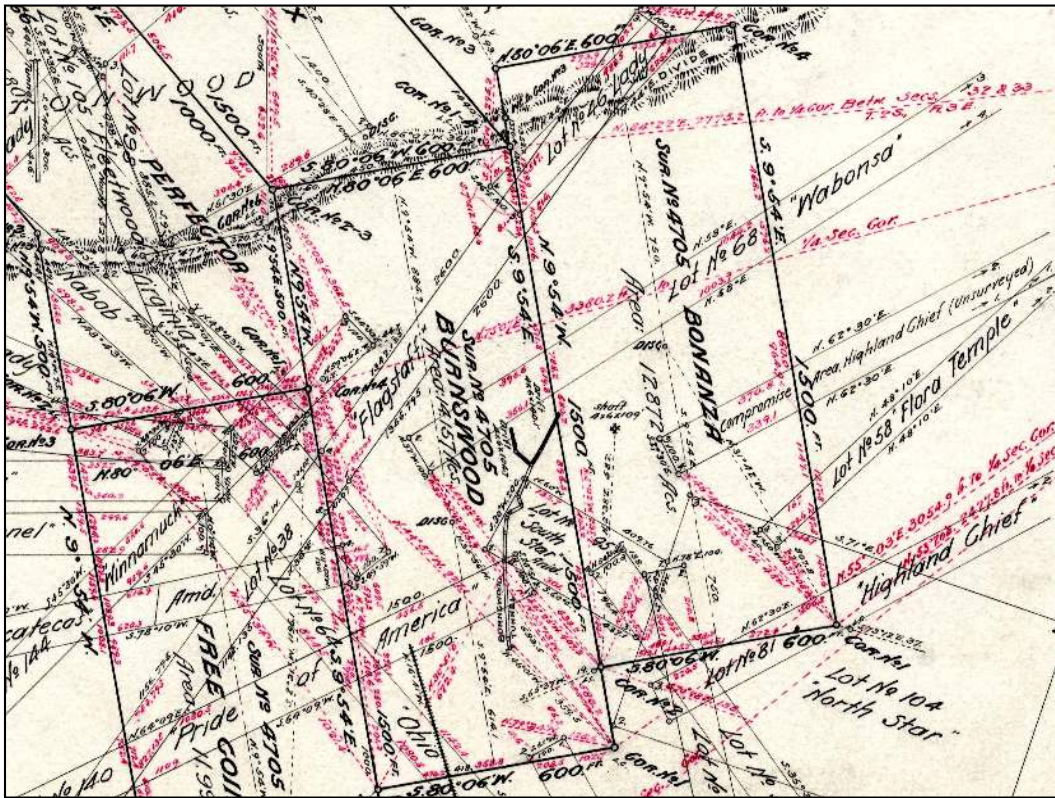


Plat of the North Star Lode, Sur. No. 68, Lot No. 104 showing conflicts with the Hiawatha, Caledonia, Flora Temple, and Allegan lodes and the theoretical position of the Highland Chief Lode.



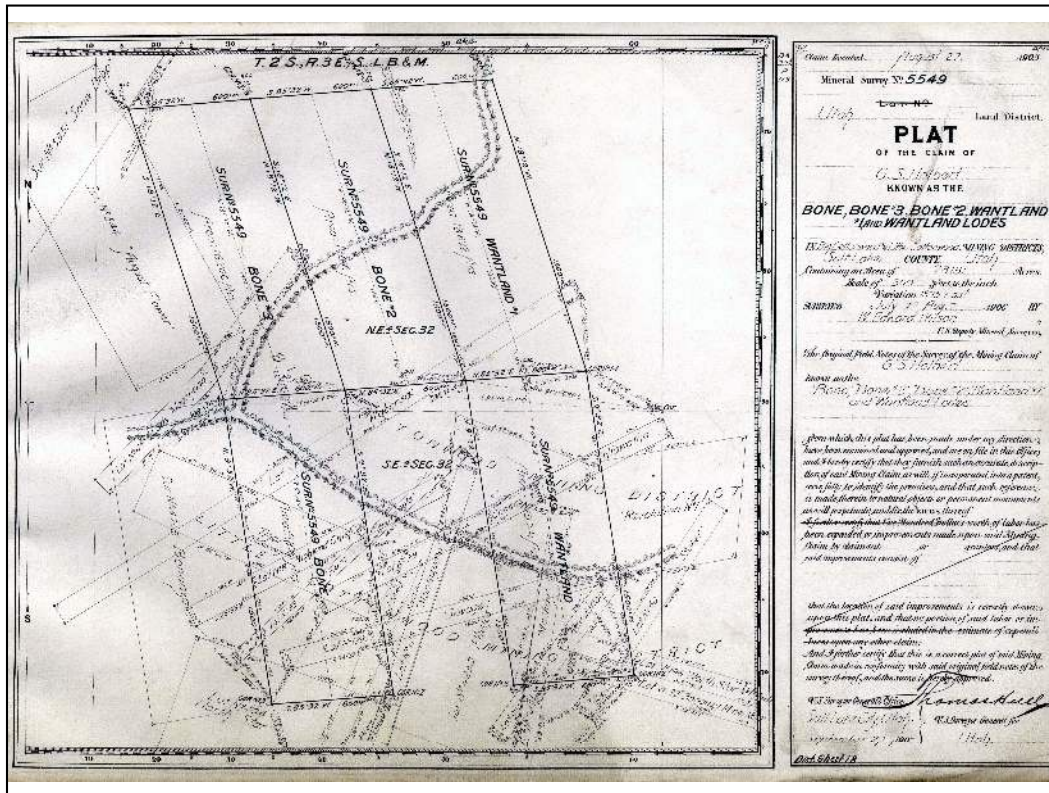
Plat of the Climax, Burnswood, Free Coinage, Bonanza, and Perfector lodes, Surs. Nos. 4705 and 4766 showing numerous conflicts with prior official surveys (as highlighted by the extensive area computations on the plat).

Note: For whatever reason, two or more mineral surveys are occasionally combined onto a single plat sheet in Utah.



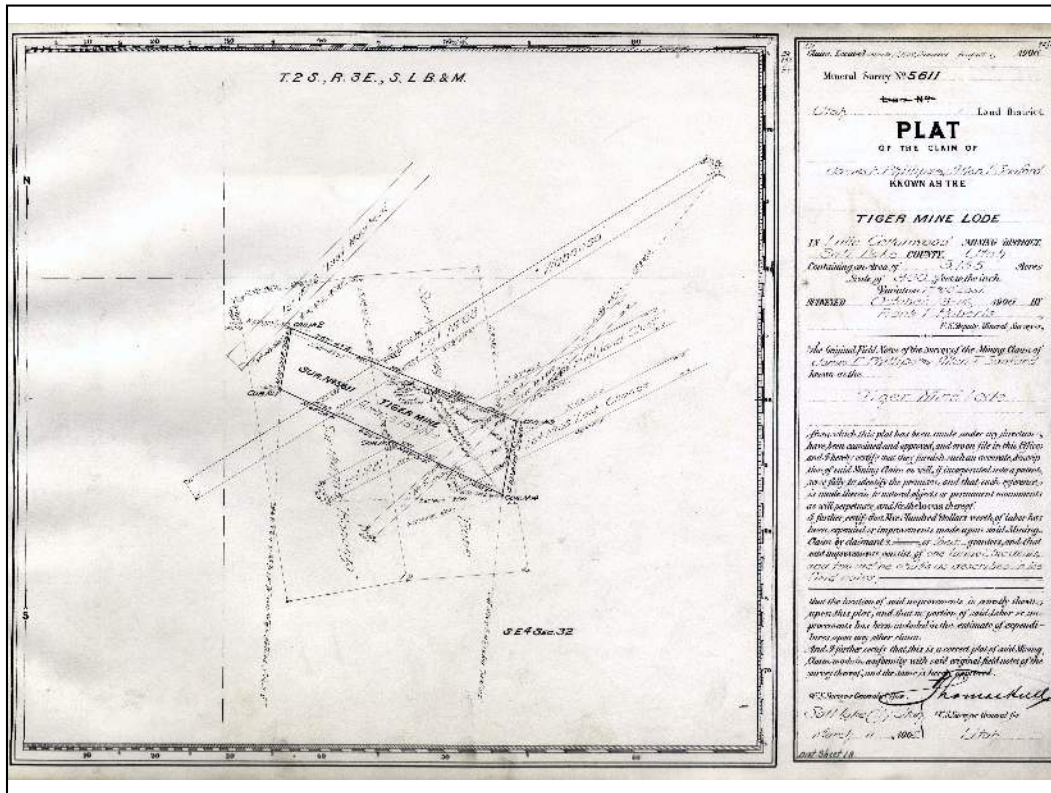
Close-up of a portion of the plat for Surs. Nos. 4705 and 4766. This is the first plat to show both the theoretical position of the Highland Chief Lode based on its connection to U.S. Mineral Monument No. 3 (bottom position labeled "Lot No. 81 Highland Chief") and its monumented position (labeled "Compromise Area, Highland Chief (unsurveyed)").

Note: The area computation for the Bonanza Lode excludes both positions of the Highland Chief Lode!

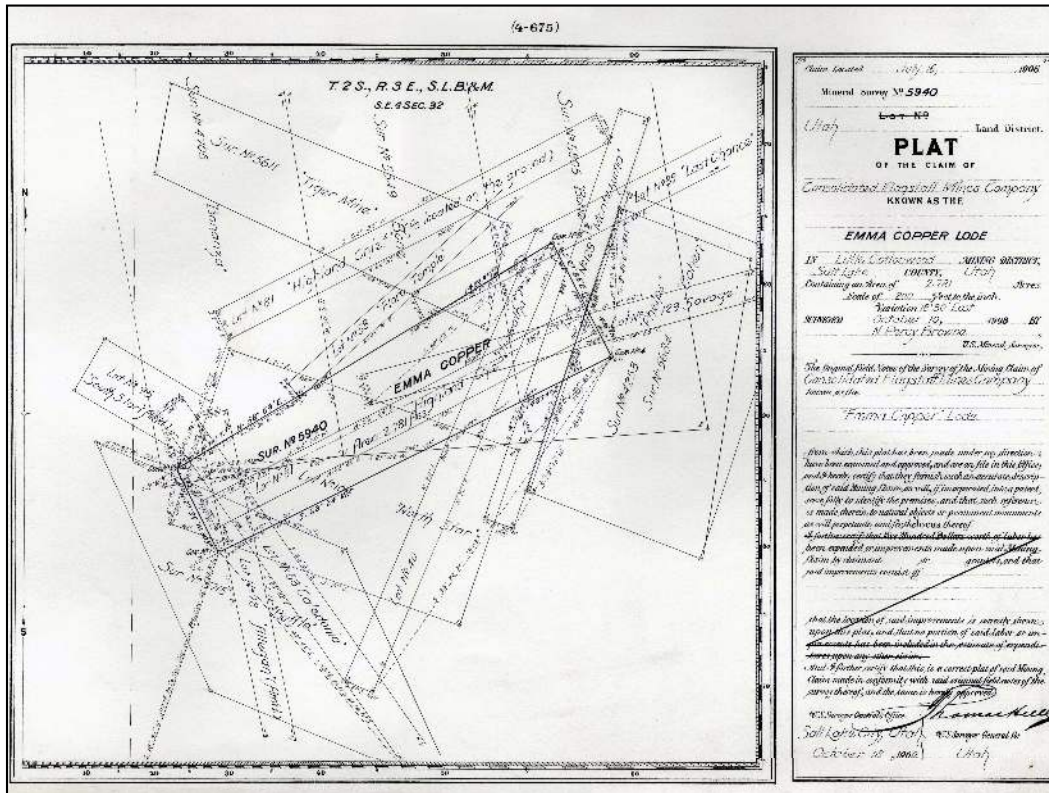


Plat of the Bone, Bone #3, Bone #2, Wantland #1, and Wantland lodes, Sur. No. 5549 showing numerous conflicts with prior official surveys. This survey was approved on September 7, 1907 and is the first mineral survey in the area to depict only the monumented position of the Highland Chief Lode.

Note: The position of the Highland Chief Lode matches the topographic call in its survey to the top of the divide.

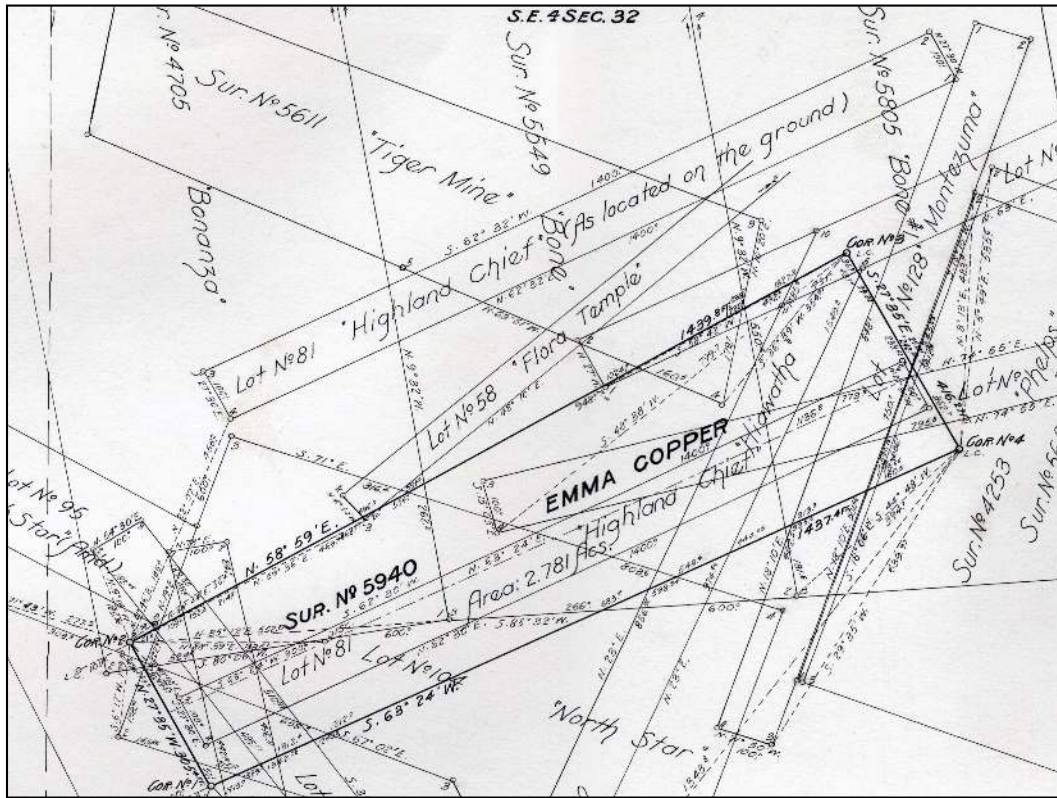


Plat of the Tiger Mine Lode, Sur. No. 5611 showing numerous conflicts with prior official surveys. This survey was approved on March 11, 1908 and only depicts the monumented position of the Highland Chief Lode.



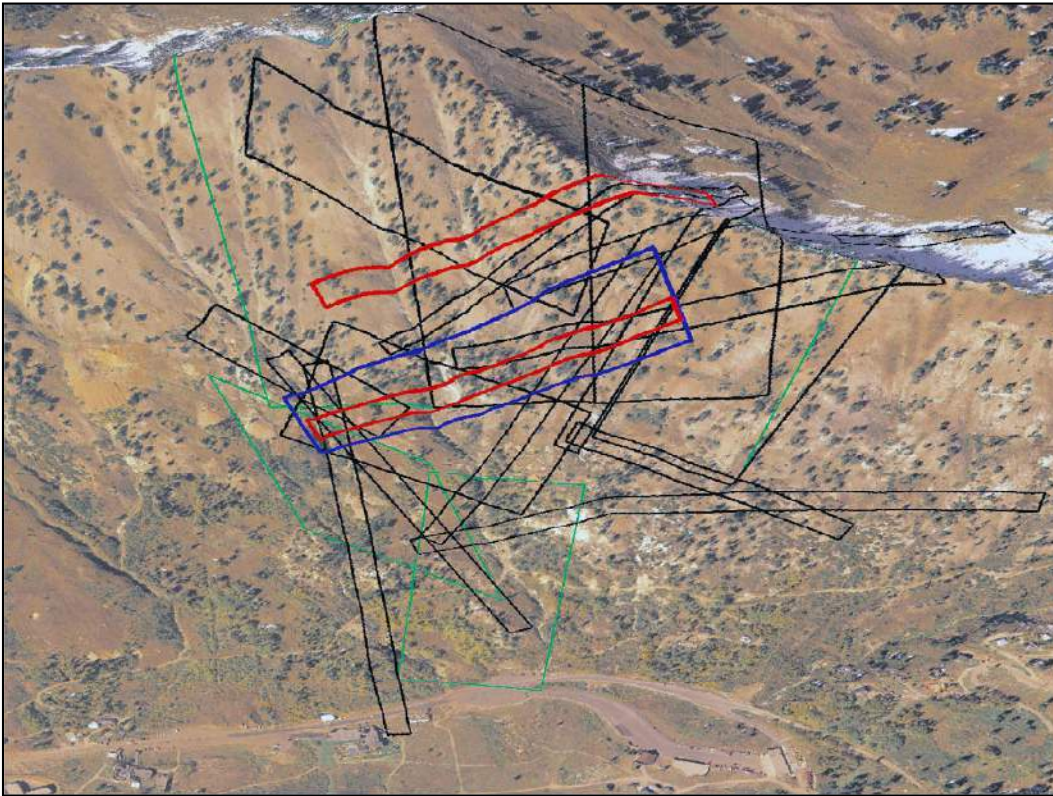
Plat of the Emma Copper Lode, Sur. No. 5940 showing numerous conflicts with prior official surveys. The Emma Copper Lode was located to claim the areas excluded in several lode claim patents that were in conflict with the theoretical position of the Highland Chief Lode. This survey was approved on October 18, 1909.

The Wasatch Mining Co. decision (DOI 45 L.D. 10) explicitly states that the, "supposed conflicts with the Highland Chief claim, which conflicts it now appears have no existence in fact, it must be held that the areas represented by these theoretical exclusions passed under the patents to the claims referred to and that there now remains no area subject to appropriation within survey No. 5940 of the Emma Copper claim." This is the only General Land Office decision that uses the term "theoretical exclusions" in reference to mineral lands patents.

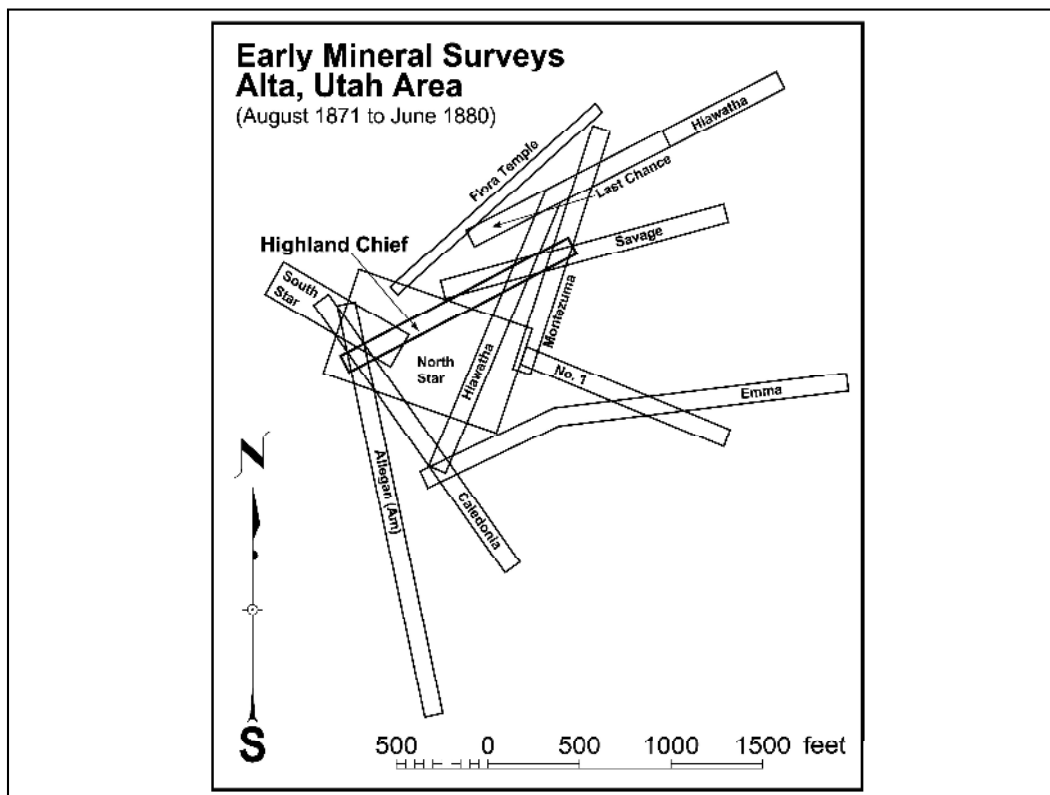


Close-up showing the Emma Copper Lode's claim to the theoretical exclusions of the Highland Chief. See the discovery and lode line within the boundary of the theoretical position of the Highland Chief Lode.

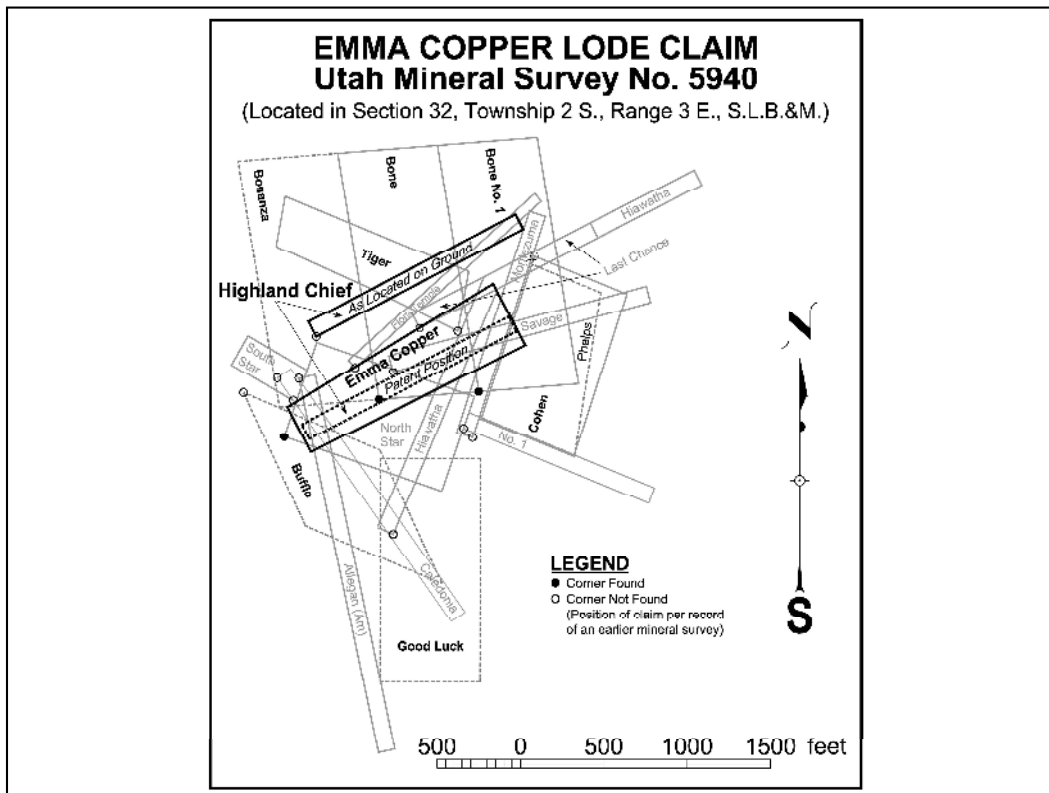
Note: The second location of the Highland Chief on the Emma Copper plat is its position as monumented on the ground and is labeled as such, "Lot No. 81 'Highland Chief' (As located on the ground)."



A three-dimensional depiction of Highland Chief and Emma Copper lodes and associated mining claims on the mountainside to the north of Alta, Utah. The green lines represent approved mineral surveys that never went to patent. The black lines are patented lode mining claims. The red lines show both the record position (bottom) and the monumented position (top) of the Highland Chief. The blue lines are the Emma Nevada lode claim that was staked to claim the theoretical position of the Highland Chief that had been expressly excepted and excluded from the nearby claims (in black).



Sketch diagram showing the early mineral surveys (1871 – 1880) in the Alta, Utah area. The position of the Highland Chief Lode is its record position which is approx. 600 down the hill from the monumented position that was created by a blundered connection to U.S. Mineral Monument No. 3.



Sketch diagram showing the Emma Copper Lode, Sur. No. 5940 and nearby lode claims. This sketch shows both positions for the Highland Chief Lode. The Wasatch Mining Co. decision voided the Emma Copper location.

Note: This is an example of the undocumented GLO policy (prior to June 1899) of using record positions of prior official surveys whenever the corners of those prior surveys could not be found. The field notes did not distinguish nor flag those conflicts as being record or actual positions, which can be problematic when trying to reestablish lost corners based on record information.

COLORADO SURVEYORS GENERAL AND THE MANUALS OF INSTRUCTIONS TO U.S. DEPUTY MINERAL SURVEYORS FOR THE DISTRICT OF COLORADO, 1873 THROUGH 1893

- William H. Lessig – October 20, 1873 (Source – Morrison's Mining Rights, 1875)
- Thomas B. Searight – 8 Circulars – Sept. 29, 1874 to Sept. 27, 1875 (Source - Morrison's Mining Rights, 1875)
- William L. Campbell – July 1, 1878 (Source – Morrison's Mining Rights, 1879)
- Albert Johnson – June 1, 1880 (Source – Elements of Surveying and Leveling, Davies, 1883)
- Norman H. Meldrum – October 1, 1883 (Source – Original)
- James A. Dawson – June 1, 1886 (Source – Original)
- Oney Carstarphen – May 1, 1889 (Source – Original)
- Eney C. Humphrey – March 15, 1893 (Source – Original)

A list of the eight U.S. Surveyors General for the District of Colorado from the enactment of the May 10, 1872 Mining Law and the issuance of the first federal manual of instructions to U.S. Deputy Mineral Surveyors on October 25, 1895.

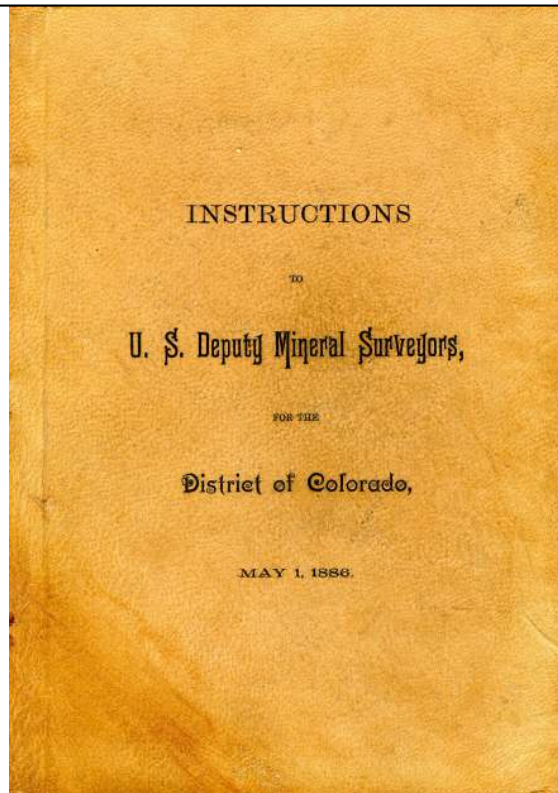
Note: Of the eight Surveyors General, seven issued their own set of instructions to U.S. Deputy Mineral Surveyors and the eighth (Thomas B. Searight) issued eight circulars that modified the instructions of his predecessor.

Photograph of a witness corner set on the extended line of several mineral survey corners that had been destroyed by landslide activity (to the left of the photo). The mountain in the background is Loveland Mountain.

**Example Two of
how to delineate
discrepancies in
the official record**

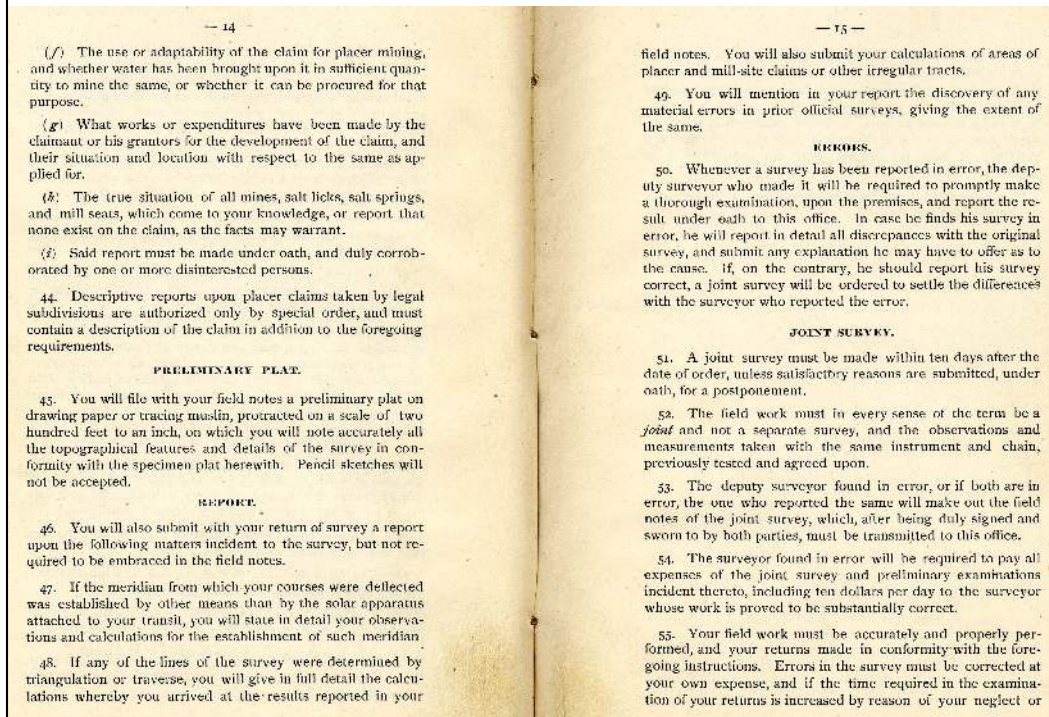
**Marginal notations
in red ink on plats
of prior official
surveys**

**Situations prior to
June 17, 1899**



On May 1, 1886, U.S. Surveyor General James A. Dawson issued, "Instructions to U. S. Deputy Mineral Surveyors for the District of Colorado" that also included sample field notes, circular instructions to applicants for Mineral Survey Orders in the District of Colorado, and miscellaneous circular instructions.

FIRST INSTRUCTIONS (1886, CO) SPECIFYING A SEPARATE REPORT



The 1886 instructions were the first to include a requirement that the mineral surveyor submit a separate letter report in addition to the preliminary plat and field notes. The report included, "matters incident to the survey, but not required to be embraced in the field notes." The March 15, 1893 instructions appended this clause, "...stating how the lines of the survey and all connections were determined;"

Note: The separate letter reports for mineral surveys conducted in Colorado do not appear to have been preserved with the official mineral survey records. Beginning in September 1904 a "Report" section was appended to and made a part of the official field notes. It contained the bulk of what was in the separate letter report. Circa 1932, this section was renamed to "Other Corner Descriptions."

field notes. You will also submit your calculations of areas of placer and mill-site claims or other irregular tracts.

49. You will mention in your report the discovery of any material errors in prior official surveys, giving the extent of the same.

ERRORS.

50. Whenever a survey has been reported in error, the deputy surveyor who made it will be required to promptly make a thorough examination, upon the premises, and report the result under oath to this office. In case he finds his survey in error, he will report in detail all discrepancies with the original survey, and submit any explanation he may have to offer as to the cause. If, on the contrary, he should report his survey correct, a joint survey will be ordered to settle the differences with the surveyor who reported the error.

The last element of the letter report was to include any material errors of prior official surveys that had conflicts with the survey being conducted by the deputy.

For situations where material errors were found in the prior survey, the deputy surveyor who made it was required to make a prompt examination and report the result. Should he report his survey to be correct, a joint survey will be conducted to settle the differences between the two mineral surveyors.

JOINT SURVEY.

51. A joint survey must be made within ten days after the date of order, unless satisfactory reasons are submitted, under oath, for a postponement.

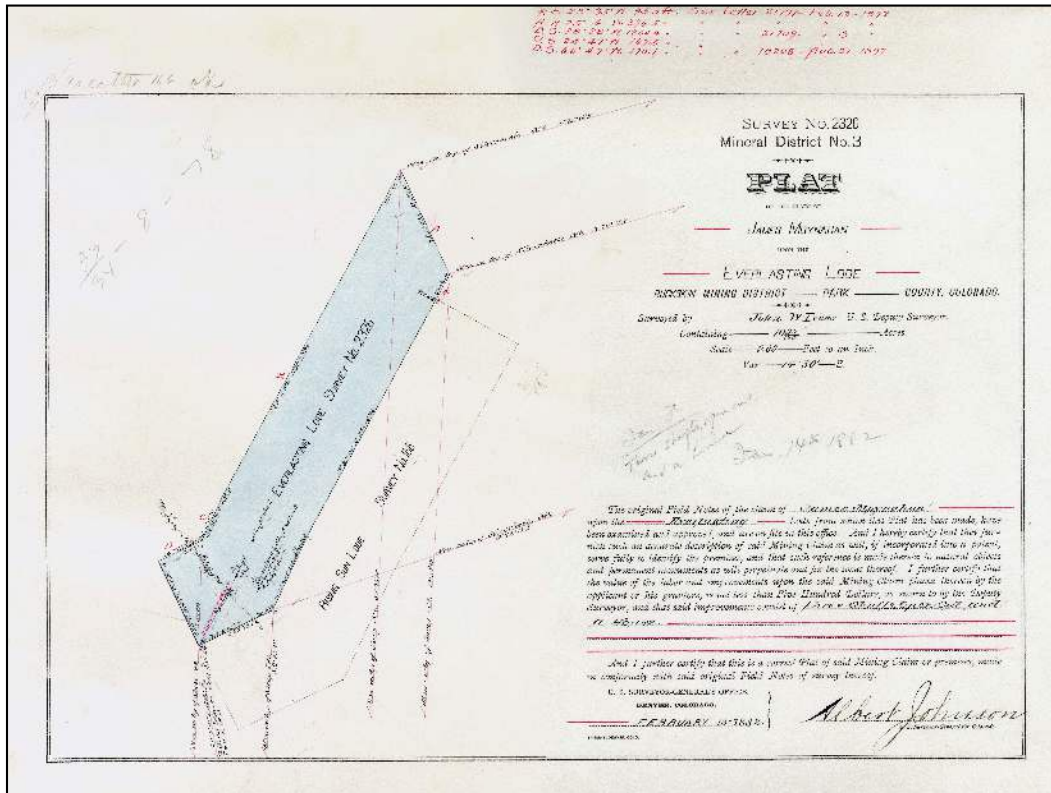
52. The field work must in every sense of the term be a *joint* and not a separate survey, and the observations and measurements taken with the same instrument and chain, previously tested and agreed upon.

53. The deputy surveyor found in error, or if both are in error, the one who reported the same will make out the field notes of the joint survey, which, after being duly signed and sworn to by both parties, must be transmitted to this office.

54. The surveyor found in error will be required to pay all expenses of the joint survey and preliminary examinations incident thereto, including ten dollars per day to the surveyor whose work is proved to be substantially correct.

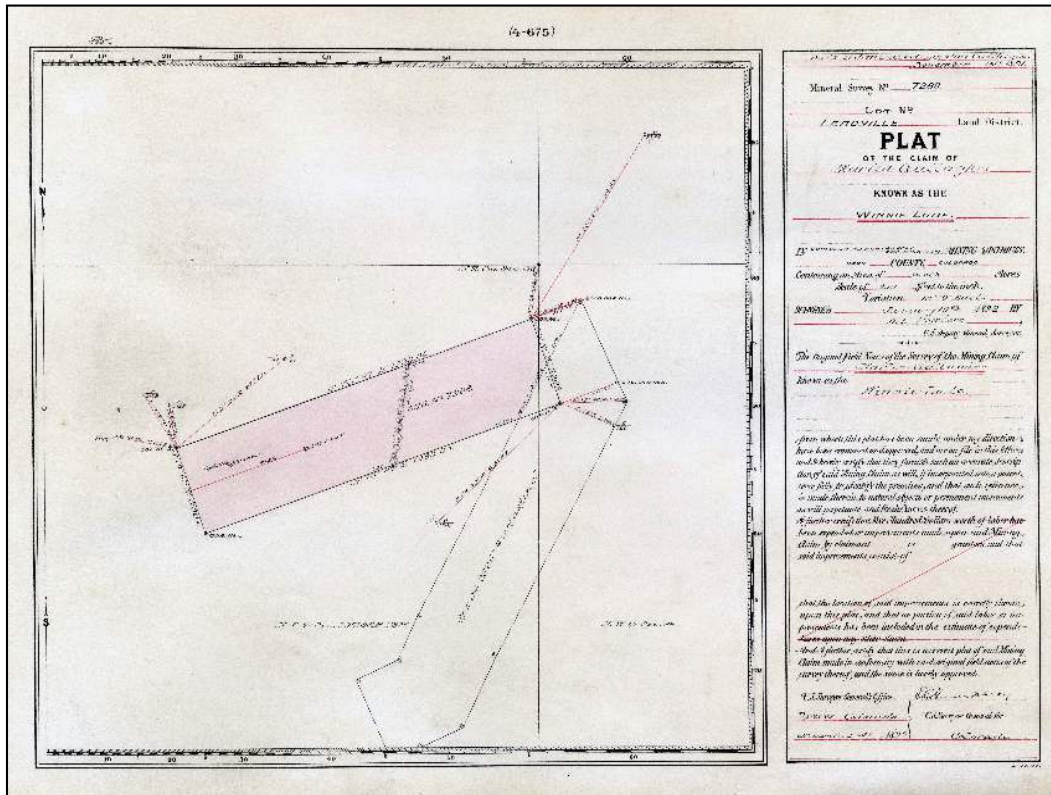
Joint surveys are conducted under the authority of a survey order issued by the U.S. Surveyor General. The U.S. Deputy Mineral Surveyors conduct the survey together and whomever is found to be in error, must pay all the expenses of the survey, which includes \$10 per day to the surveyor whose initial work is proved to be correct.

Note: If this practice of joint surveys to correct errors and/or discrepancies between two mineral surveys was adopted today, it would likely reduce the number of pin-cushioned corners!



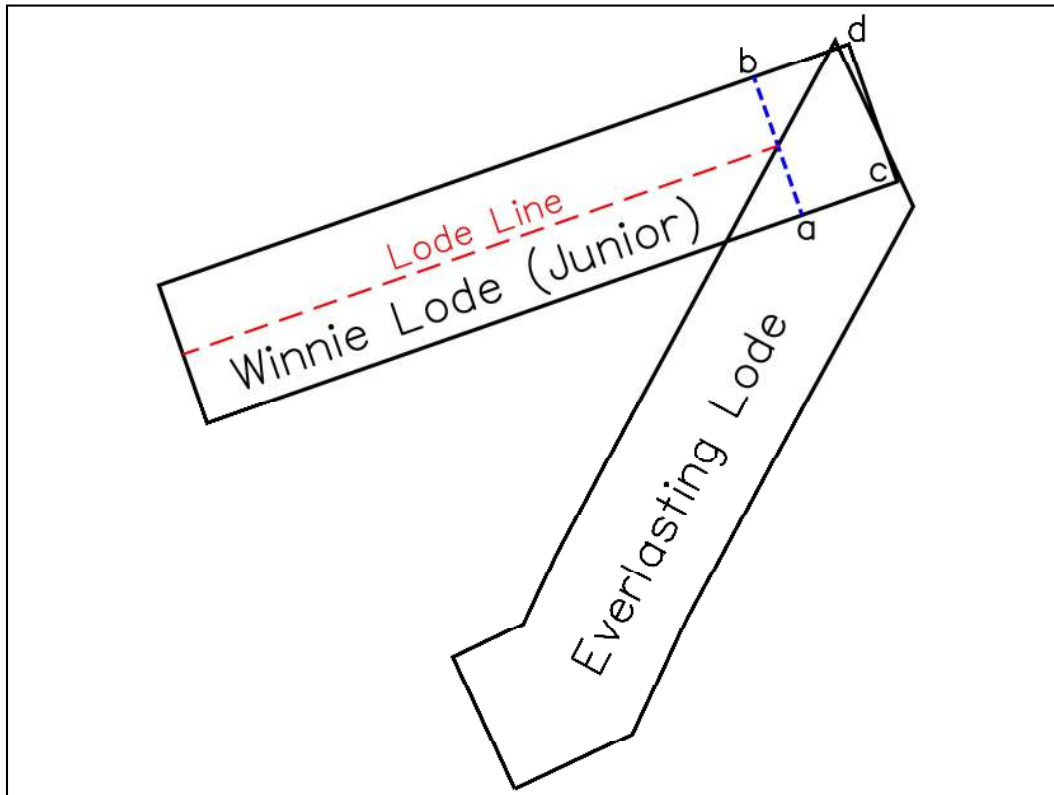
Plat of the Everlasting Lode, Sur. No. 2326 that shows it adjoining the Rising Sun Lode, Sur. No. 166. The two claims share three corners along their common side line. The top margin of the plat lists five material errors in red ink. The errors are referenced to three serialized letters dated: February 3, 1892; February 13, 1892; and August 21, 1897.

Note: The serialized letters are the separate letter reports first required in the 1886 instructions to be submitted by the U.S. Deputy Mineral Surveyor along with the preliminary plat and draft field notes.

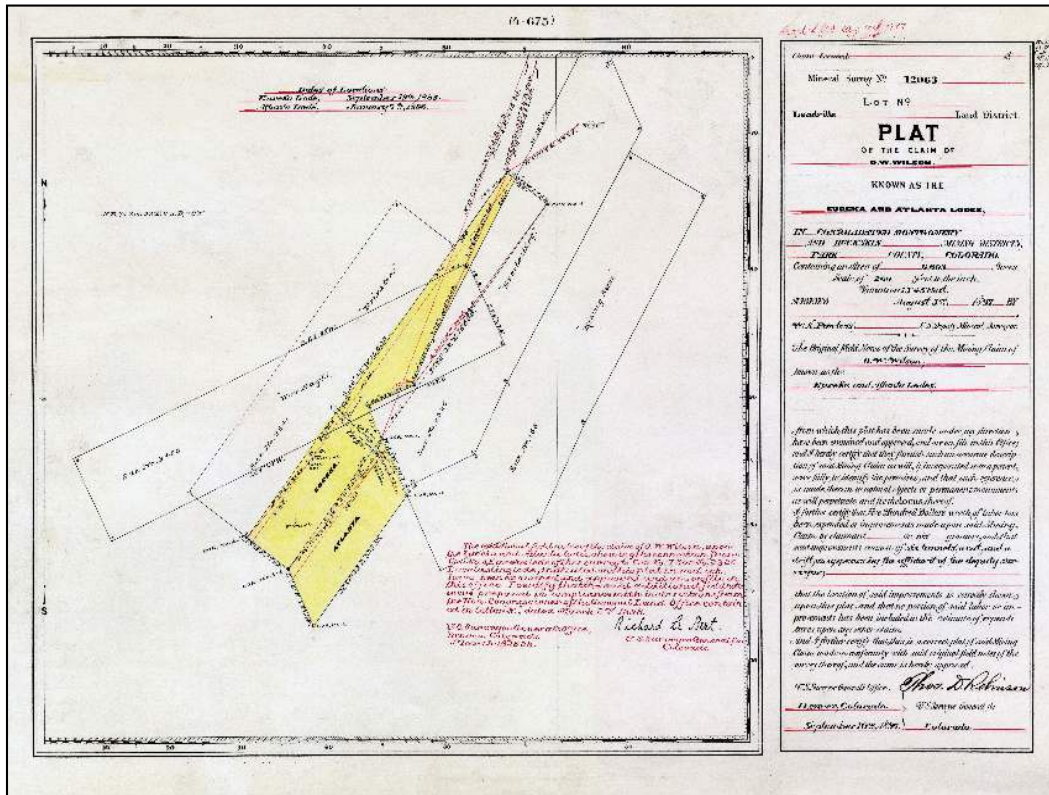


Plat of the Winnie Lode, Sur. No. 7288, which was surveyed when a GLO circular instruction required junior lodes to be truncated where their lode line intersected a senior lode claim's side line.

Note: The bearing of Line 5-6 of the Everlasting Lode, Sur. No. 2326 as shown on the plat of the Winnie Lode is S 28°28' W; identical with the bearing of the material error of Line "B" as listed on the top margin of the Everlasting Lode's plat ("See Letter 21709 – Feb. 3 – 1892").

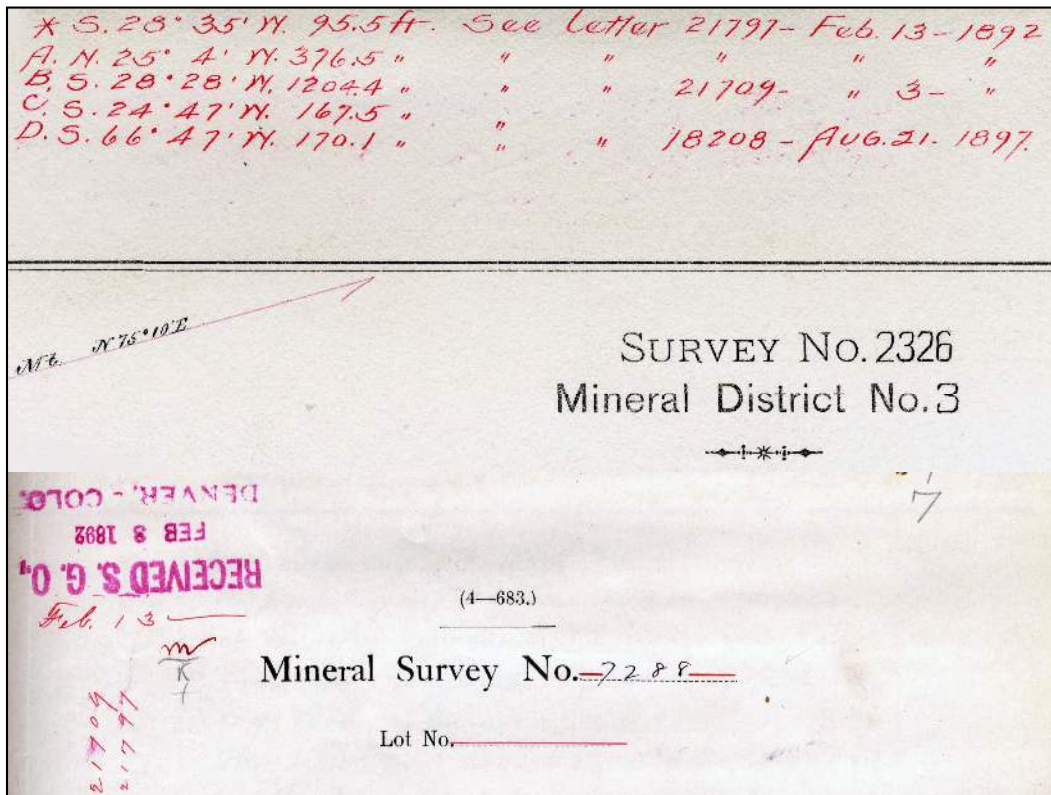


The Winnie Lode was surveyed in 1892 when the General Land Office had a circular instruction restricting the length of junior lode claims that intersected a senior lode claim. The circular required the U.S. Deputy Mineral Surveyor to move an end line wholly within the boundaries of a senior conflicting claim to a point where the lode line intersected the side line of the senior claim. Line c-d is the easterly end line of the amended location of the Winnie Lode. During the mineral survey of the Winnie Lode, the U.S. Deputy Mineral Surveyor moved the easterly end line to be coincident with a point that marks the intersection between the Winnie lode line and the side line of the Everlasting Lode (Line a-b).



Plat of the Eureka and Atlanta lodes, Sur. No. 12063 showing their conflict with the Everlasting Lode, Sur. No. 2326 and the War Eagle Lode, Sur. No. 3406 (abandoned).

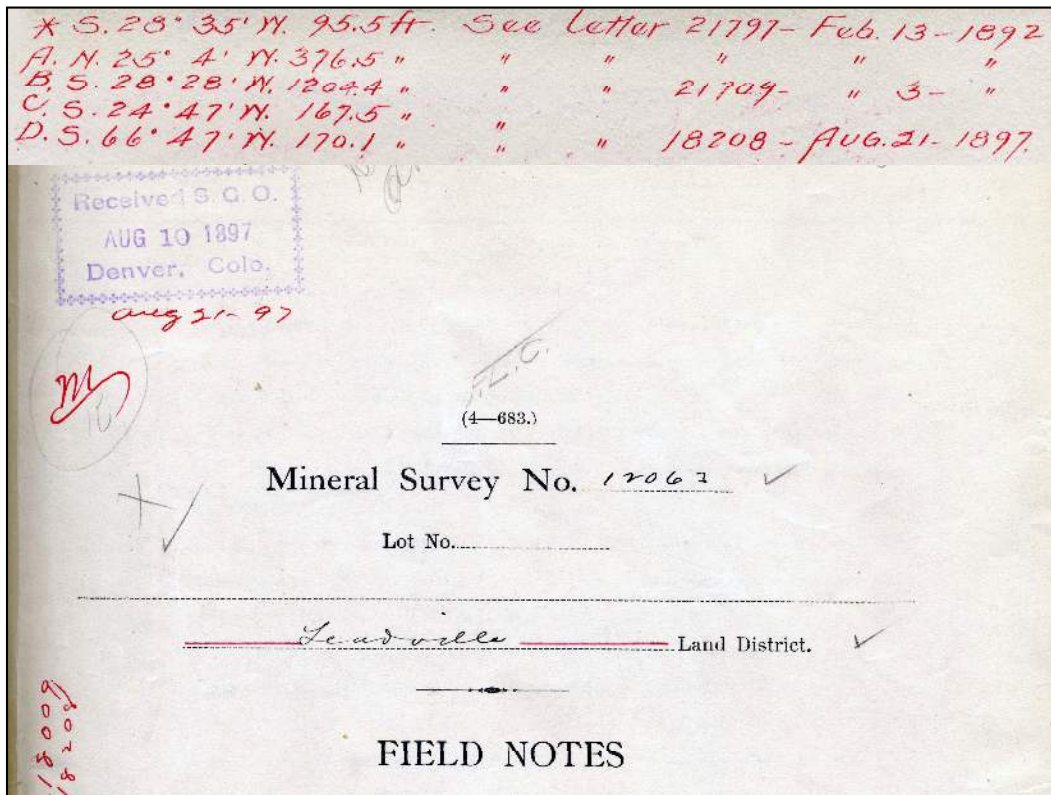
Note: By 1897, the Colorado Surveyor's General office noted the date(s) that they received draft returns from the U.S. Deputy Mineral Surveyor on the approved plat. The mineral surveyor submitted two sets of draft returns for this mineral survey, those being received by the S.G.O. on August 10, 1897 and August 21, 1897.



Close-up of the five material errors in Survey No. 2326 (top half) and the upper portion of the cover page of the official field notes of Mineral Survey No. 7288 (bottom half) stamped with, "RECEIVED S.G.O., Feb 3 1892 DENVER – COLO." Below the stamp is a date of "Feb. 13 ———" which is the date that the second set of field notes were received by the S.G.O.

Below the dates are two five-digit numbers in red ink, "21709" and "21797" which are the serial numbers assigned by the SGO to the separate letter reports submitted with the preliminary plat and draft field notes by the mineral surveyor.

Matching the serial numbers and dates together, show that the mineral survey of the Winnie Lode discovered three material errors in the prior official survey of the Everlasting Lode, those being errors in course and distance between Cor. No. 6, Rising Sun Lode, Sur. No. 166 and Cor. No. 4, Everlasting Lode (line marked with a red "*"), and Lines 4-5 and 5-6 of the Everlasting Lode (lines marked "A" and "B").



Close-up of the five material errors in Survey No. 2326 (top portion) and the upper part of the cover page of the official field notes of Mineral Survey No. 12063 (bottom half) stamped with, "RECEIVED S.G.O., Aug 10 1897 Denver, Colo." Below the stamp is a date of "Aug 21 - 97" which is the date that the field notes were resubmitted to the S.G.O.

Below the dates are two five-digit numbers in red ink, "18009" and "18208" which are the serial numbers assigned by the SGO to the separate letter reports submitted with the preliminary plat and draft field notes by the mineral surveyor.

Matching the second serial number and date together, show that Sur. No. 12063 discovered two material errors in the prior official survey of the Everlasting Lode, those being errors in Lines 6-7 and 7-8 of the Everlasting Lode (lines marked "C" and "D" on the plat).



Photographs of stone monuments from lower right, counterclockwise:

Cor. No. 6, Rising Sun Lode, Sur. No. 166

Cor. No. 4, Everlasting Lode, Sur. No. 2326

Cor. No. 5, Everlasting Lode, Sur. No. 2326

Cor. No. 6, Everlasting Lode, Sur. No. 2326

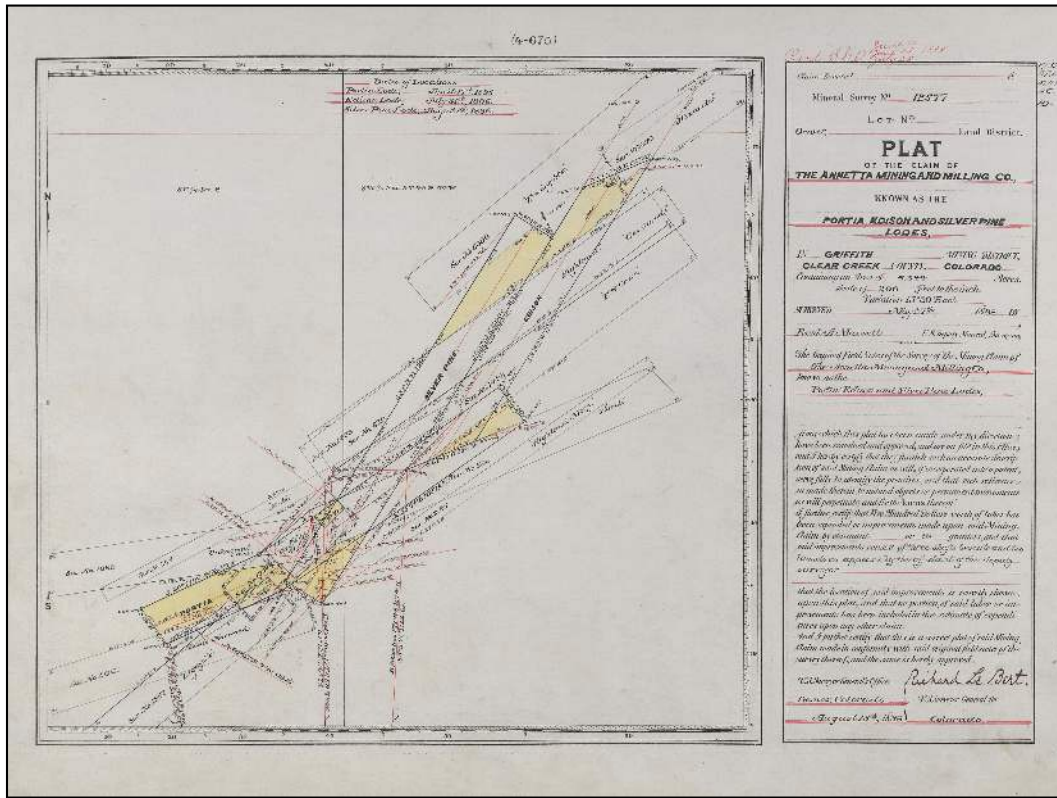
Note: The separate letter reports for mineral surveys conducted in Colorado do not appear to have been preserved with the official mineral survey records since they were regarded as auxiliary to the official field notes of the mineral survey. In September 1904, a "Report" section was added to the end of the field notes for mineral surveys.

DISCREPANCIES IN THE OFFICIAL RECORD JUNE 17, 1899 TO AUGUST 10, 1904

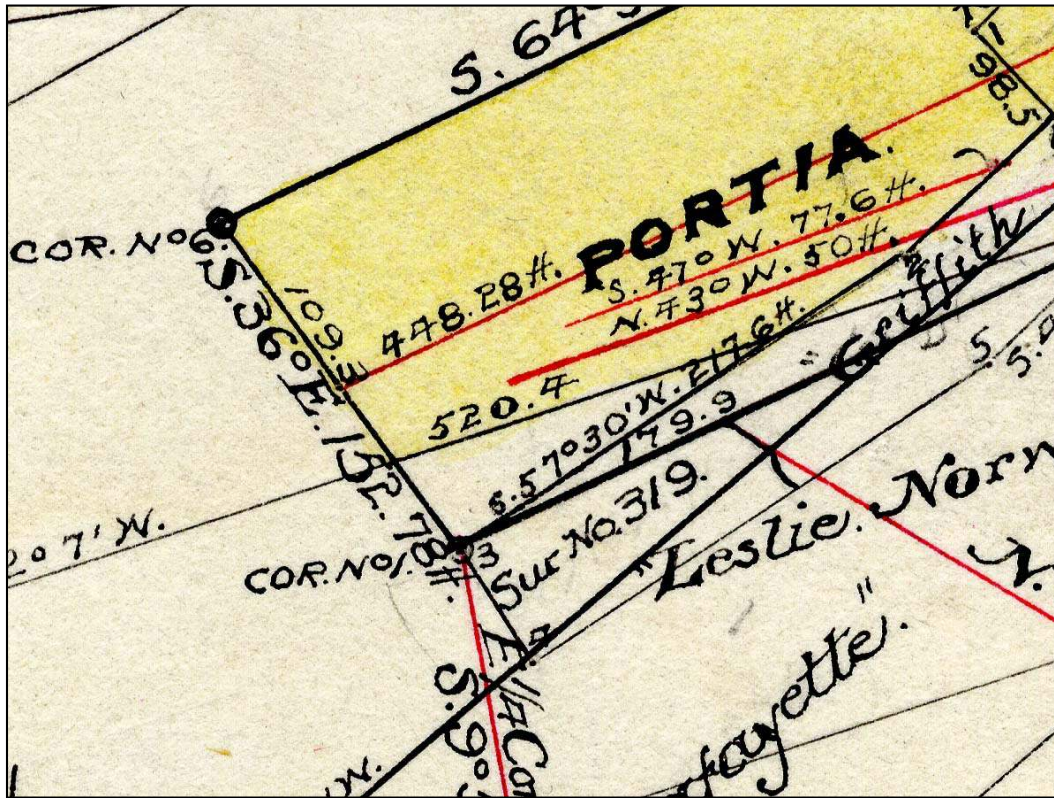
Between June 17, 1899 and August 10, 1904 the General Land Office adopted an absurd policy that required U.S. Deputy Mineral Surveyors to depict the patent description positions of prior official surveys when conducting mineral surveys. This was true regardless of whether the mineral surveyor was able to find the monumented positions of those prior official surveys.

The five examples below illustrate how a resurveyor can deal with the resultant discrepancies in the record during that time period.

1. Original survey conducted before June 17, 1899 and an amended survey conducted during the five-year time period;
2. The location certificate shows the true position of past surveys;
3. Odd-shaped gaps between current and past surveys;
4. The use of tracts to exclude true conflicts from the patent; and
5. Original survey conducted during the five-year time period and an amended survey conducted after August 10, 1904.

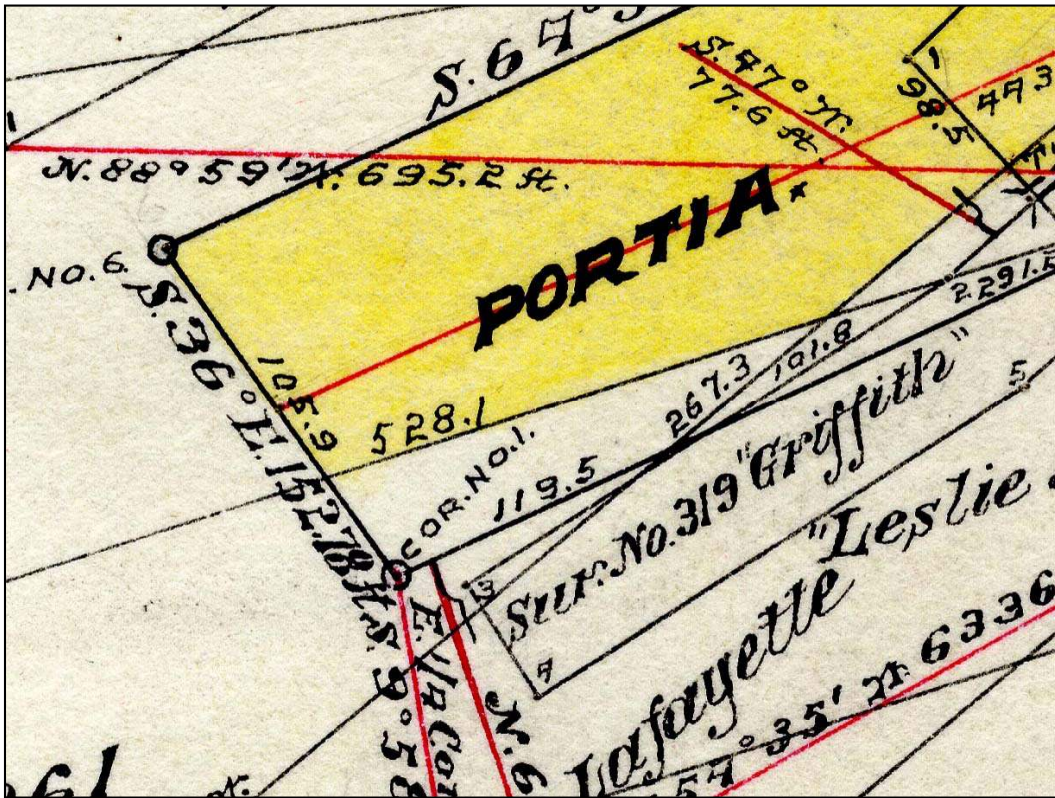


Plat of the original survey of the Portia, Edison, and Silver Pine lodes, Sur. No. 12577. The field survey was conducted by Frank A. Maxwell on May 26-27, 1898 and approved on August 13, 1898.



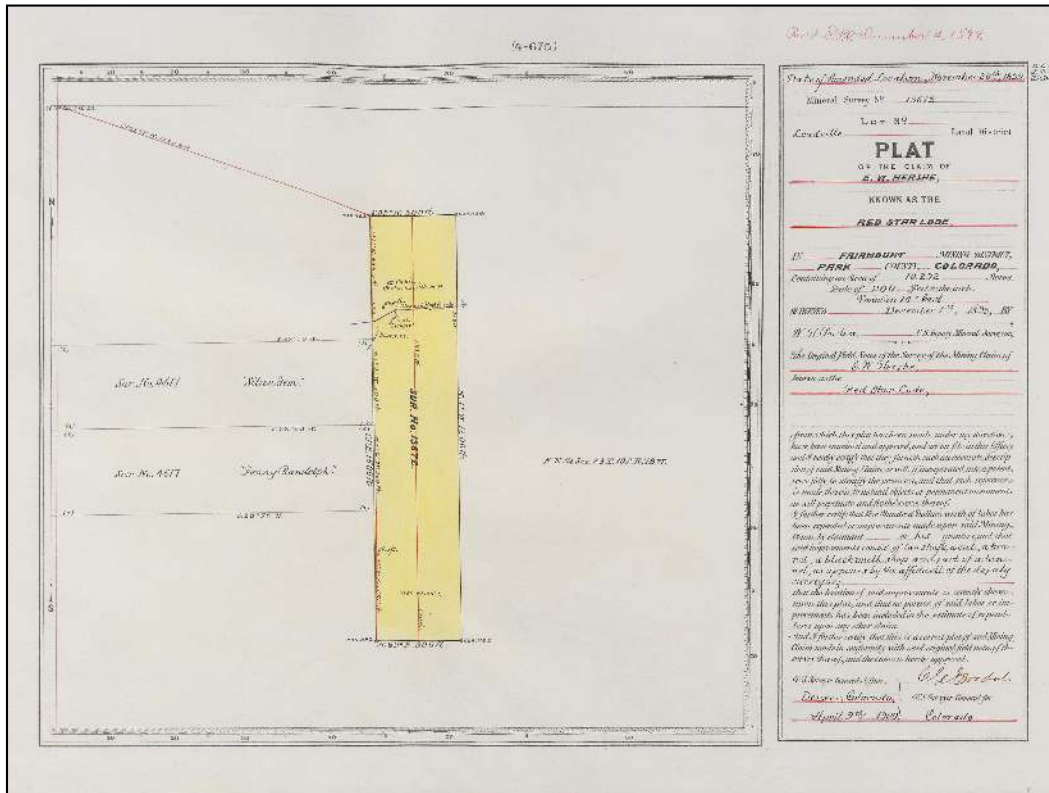
Close-up of the original plat of Sur. No. 12577 indicating that Cor. No. 1 of the Portia is common with Cor. No. 3, Griffith Lode, Sur. No. 319. The original field notes for the Portia Lode state, "Beginning at Cor. No. 1, Identical with Cor. No. 3 Sur. No. 319 Griffith lode, claimant unknown a cross (x) at corner point and 1-319 (*typographical error, should be "3-319*) – 1-12577 chiseled on ledge 10 x 20 ft. above the general surface."

Note: The official field notes for the Griffith Lode, Sur. No. 319 states, "Corner No. 3. Post in mound of stones, from which 3x319 chiseled on rock in place bears N. 32°30' W at the distance of 7 feet...." Deputy Maxwell mistakenly accepted the bearing accessory 7 ft. from the corner as being the corner. In the separate letter report (index number 22845) submitted with the original survey plat and field notes of Sur. No. 12577 Deputy Maxwell reported a material error in Line 2-3 of the Griffith Lode, Sur. No. 319. The patented course and distance of Line 2-3 of the Griffith is S 57°30' W, 217.6 ft. The top margin of the Griffith Lode plat states in red ink, "* S. 57° W. 203.4 ft. See Letter 22845 – June 15 – 1898."



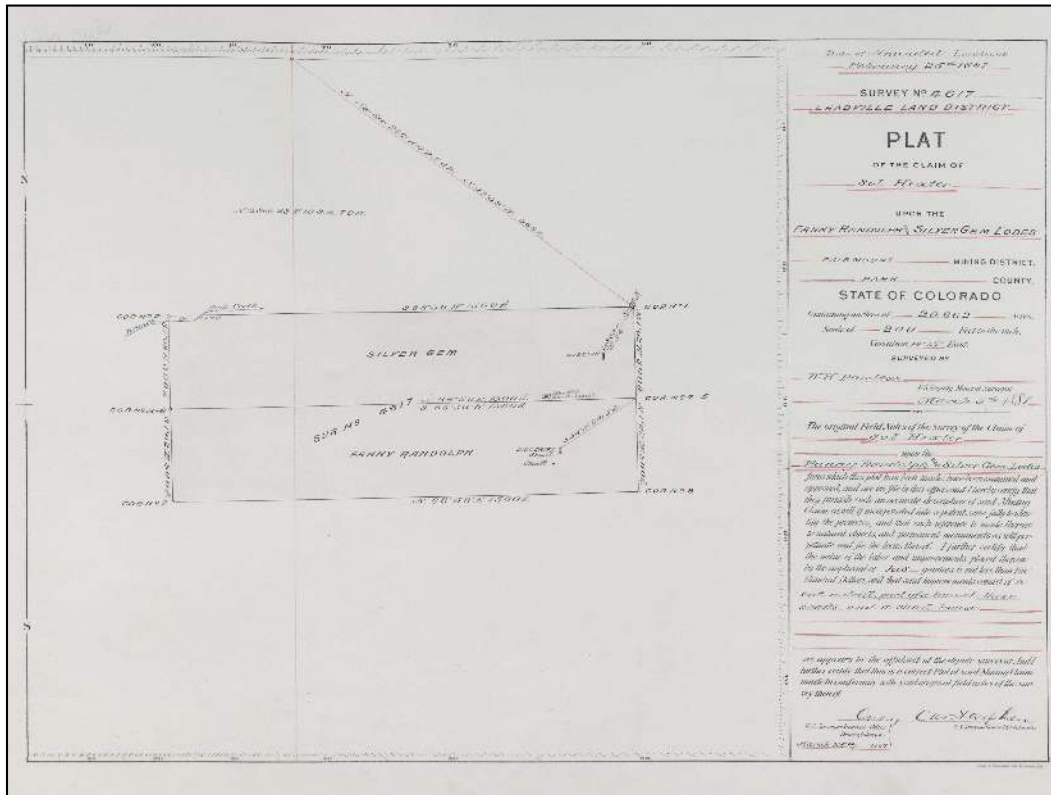
Close-up of the amended plat of Sur. No. 12577 indicating that Cor. No. 1 of the Portia Lode is approx. 30 feet from Cor. No. 3, Griffith Lode, Sur. No. 319. Deputy Maxwell computed the patent description position of Cor. No. 3, Griffith Lode to be S 85°39' E, 30.47 ft. from Cor. No. 1 of the Portia Lode.

Note: The amended survey ignored the material error described in the previous slide and showed the patent description course and distance for Line 2-3 of the Griffith Lode.



Plat of the Red Star Lode, Sur. No. 13672 surveyed on December 1, 1899 and approved on April 9, 1900 showing a conflict with the Silver Gem and Fanny Randolph lodes, Sur. No. 4617.

Note: This example of a discrepancy in the official record depicts a situation where the mineral surveyor showed the true position of the prior official survey in the amended location certificate. In fact, the east end lines of the Silver Gem and Fanny Randolph lodes are located on Line 1-2 of the Red Star Lode. The metes-and-bounds description in the official field notes show the same two end lines being 3.0 ft. inside the boundary of the Red Star Lode.



Plat of the Fanny Randolph and Silver Gem lodes, Sur. No. 4617, surveyed on March 5, 1887 and approved on March 25, 1887. The same mineral surveyor, W.H. Powless surveyed both mineral surveys in this example.

434.3	Intersect line 1-2 Sur. no. 4617 Silver Gem lode, at S. 88°58'W. 2.7 ft. from Cor. no. 1.
734.3	Intersect lines 3-4 and 5-6 Sur. no. 4617. Silver Gem and Fanny Randolph lodes at S. 88°58'W. 2.8 ft. from Cor. nos. 4 & 5
1034.3	Intersect line 7-8 Sur. no. 4617 Fanny Randolph lode, at S. 88°58'W. 3 ft. from Cor. no. 8
1500	<p><u>To Cor. no. 7</u></p> <p>A limestone 24 x 10 x 5 ins set 15 ins. in the ground with mound of stone chiseled: $\frac{2}{13672}$, whence</p> <p>Cor. no. 8 Sur. no. 4617 Fanny Randolph lode, bears N. 0°38'W. 465.7 ft.</p> <p>A dead spruce 24 ins. dia. blazed and scried B. J. $\frac{2}{13672}$, bears N. 15°10'E. 35.5 ft.</p> <p>Mt. Silverheels bears N. 17°22'E.</p> <p>Thirty-nine mile Mt. bears S. 49°15'E.</p>

Excerpt from the Red Star Lode, Sur. No. 13672 field notes showing the intersections of Line 1-2 of the Red Star Lode with Line 1-2 and Line 3-4 of the Silver Gem Lode and Line 5-6 and Line 7-8 of the Fanny Randolph Lode. The conflict shown is with respect to the patent description position of the prior official survey.

and State of Colorado, described by metes and bounds as follows, to wit:

Beginning at Corner No. 1 thence $S 0^{\circ} 57' E$ passing w. center side
state at 750 ft. 1500 ft to Cor No 2 thence $N 89^{\circ} 3' E$ 300 ft.
to cor No 3 thence $N 0^{\circ} 57' W$, passing E. center side center
state at 750 ft. 1500 ft to Cor No 4 thence $S. 89^{\circ} 3' W$,
300 ft to Cor No 1 Mag Var $13^{\circ} 50' E$.
From Cor No 2 Cor No 8 of sur No 4617 Fanny Ran-
dolph lode base $N 0^{\circ} 57' W$. 470.3 ft.
This claim lies in NE 1/4 of sec. 23 T10 R18 W.
of the 6th PM,
adjoining claims: sur No 4617 and Red Ray lode.

Field survey measurement between Cor. No. 2,
Red Star Lode, Sur. No. 13672 to Cor. No. 8, Fanny
Randolph Lode, Sur. No. 4617 (after rehabilitation)
is **N 1°01'46" E, 470.01 ft.**

Excerpt from the amended location certificate included in the official field notes of the Red Star Lode. The metes-and-bounds section of the field notes state that Cor. No. 8 of the Fanny Randolph Lode is N. $0^{\circ} 38' W$. 465.7 ft. from Cor. No. 2 of the Red Star Lode. However, the amended location certificate prepared by Dep. Powless shows the course and distance to be N. $0^{\circ} 57' W$. 470.3 ft.

Note: During a resurvey completed in 2009, the course and distance between the found Cor. No. 2 of the Red Star Lode and the reestablished Cor. No. 8 of the Fanny Randolph is N. $1^{\circ} 01' 46'' E$, 470.01 ft.



Photograph of Cor. No. 2, Red Star Lode, Sur. No. 13672. Found original stone monument, a gray limestone 5 x 10 ins. protruding 12 ins. above ground surface, in a mound of stone. A 2 x 2 ins. section is missing from the south end of the top of the stone where the Cor. No. "2" should be. No chiseled "X" found. Used the high point as the corner. East face is chiseled 13672.



Photograph taken in the vicinity of Cor. No. 8, Fanny Randolph Lode, Sur. No. 4617. The original call is for a 4 x 4 in. wood post scribed 8-4617.



Close-up photograph of what appears to be the remnants of a mound of stone surrounding a bare patch between the fallen pine tree and Aspen sapling. Beneath the pine tree is some rotted wood (to the left of the mound of stone).



Photograph of rotted wood post after moving the dead pine tree to the left.



Photograph of rotted remnants of the original wood post set on March 5, 1887 to monument Cor. No. 8 of the Fanny Randolph Lode.



Close-up photograph of the top of the wood post showing faint scribing of "8-4617." The wood post had rotted and fallen with the scribed face down and preserved after the pine tree fell.



Cor. No. 8 of the Fanny Randolph was remonumented after excavating the center of the original mound of stone to expose the remnants of the original 4 x 4 in. wood post. A 30 in. long, No. 6 rebar was driven to refusal through the center of the post remnants and a 2 ½ in. diameter aluminum cap affixed.



Photograph of set monument and rebuilt mound of stone.

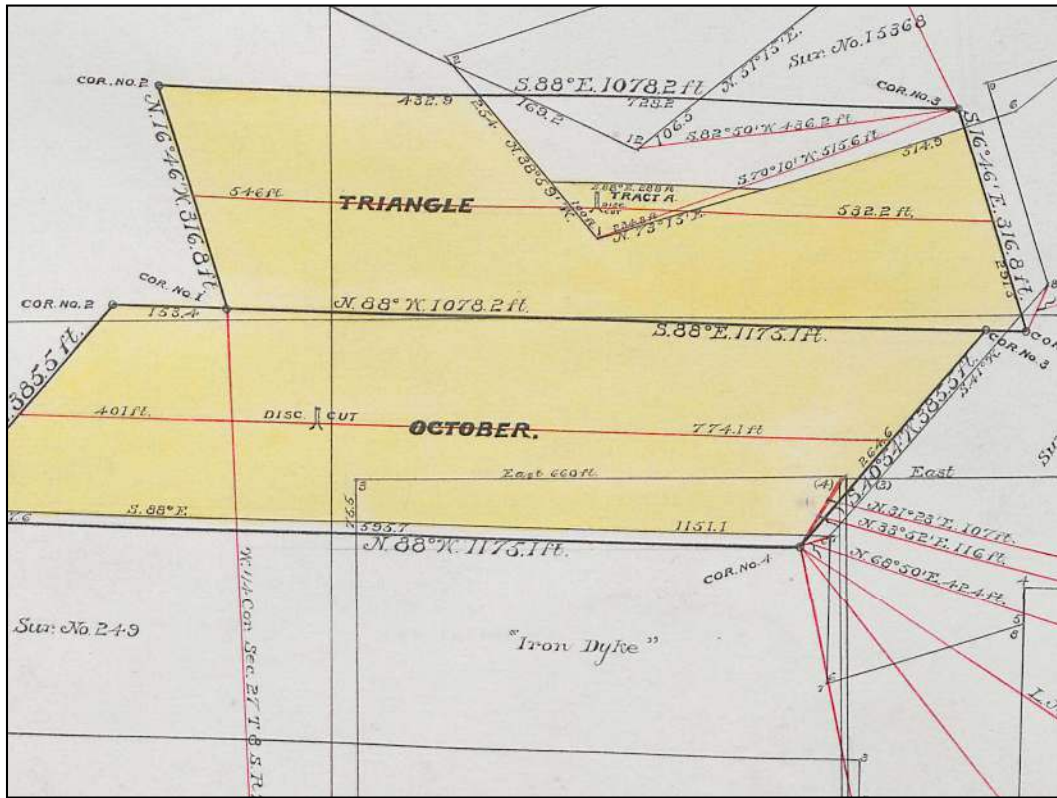
ADDITIONAL NOTES:

1. The official field notes, plat and patent of the Red Star lode describe and show a conflict with the Silver Gem and Fanny Randolph lode claims. However, the conflict is theoretical in nature. At the time of the survey of the Red Star lode (December 1, 1899), the General Land Office's (GLO) policy was to accept the record position rather than the monumented position of the prior patented claims. The Act of April 28, 1904 overturned the General Land Office policy. The act unequivocally states that the long-established legal principle of monuments controlling over course and distance also applies to mineral surveys. Several Dept. of Interior Land Decisions dealt with the aftermath of this erroneous policy.

In the Wasatch Mines Company Dept. of Interior Land Decision (45 L.D. 10) this type of conflict was defined as a theoretical conflict. The Wasatch Mines decision stated that, "Where exclusions are made from mining claims of supposed conflicts with a prior patented claim, and the position of the prior patented claim as actually marked, defined and established upon the ground is not identical with its position as represented upon the plat and described in the field notes of survey, and the supposed conflicts have no existence in fact, the areas represented by such theoretical exclusions pass under the patents to the claims..." While conducting the field survey of the three claims it was determined that Line 1-2 of the Red Star lode is coincident with Line 4-1 of the Silver Gem lode and Line 8-5 of the Fanny Randolph lode. The theoretical positions of the Silver Gem and Fanny Randolph bear S30°9'E, a distance of 6.0 feet from their true, monumented positions. The amended location certificate in the official field notes of the Red Star lode states that Cor. No. 8 of the Fanny Randolph bears N00°57'W a distance of 470.3 feet from Cor. No. 2 of the Red Star lode. This survey determined the tie to be N01°01'46"W a distance of 470.01 feet. Therefore, the actual conflict between the Red Star lode and the Silver Gem and Fanny Randolph lode claims is 0.000 acres and the area of the Red Star lode as determined by this field survey is 10.328 acres, more or less.

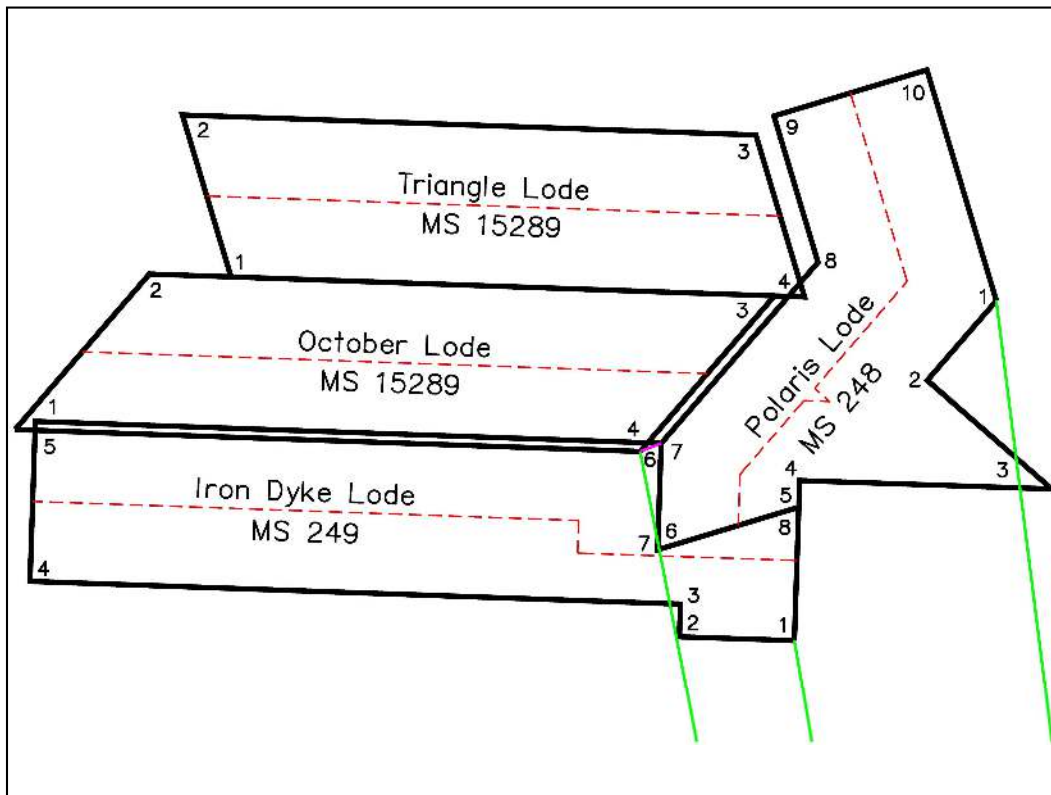
Additional Note 1 on the Land Survey Plat describes the discrepancy in the official record and how it was addressed. The note describes the theoretical exclusion in the patent of the Red Star Lode, Sur. No. 13672, Mineral Entry No. 4546, Patent No. 33255, Date of Patent – December 3, 1900.

Note: The Wasatch Mining Co., Department of the Interior Land Decision (45 L.D. 10) is discussed earlier in this part on discrepancies in the official records.

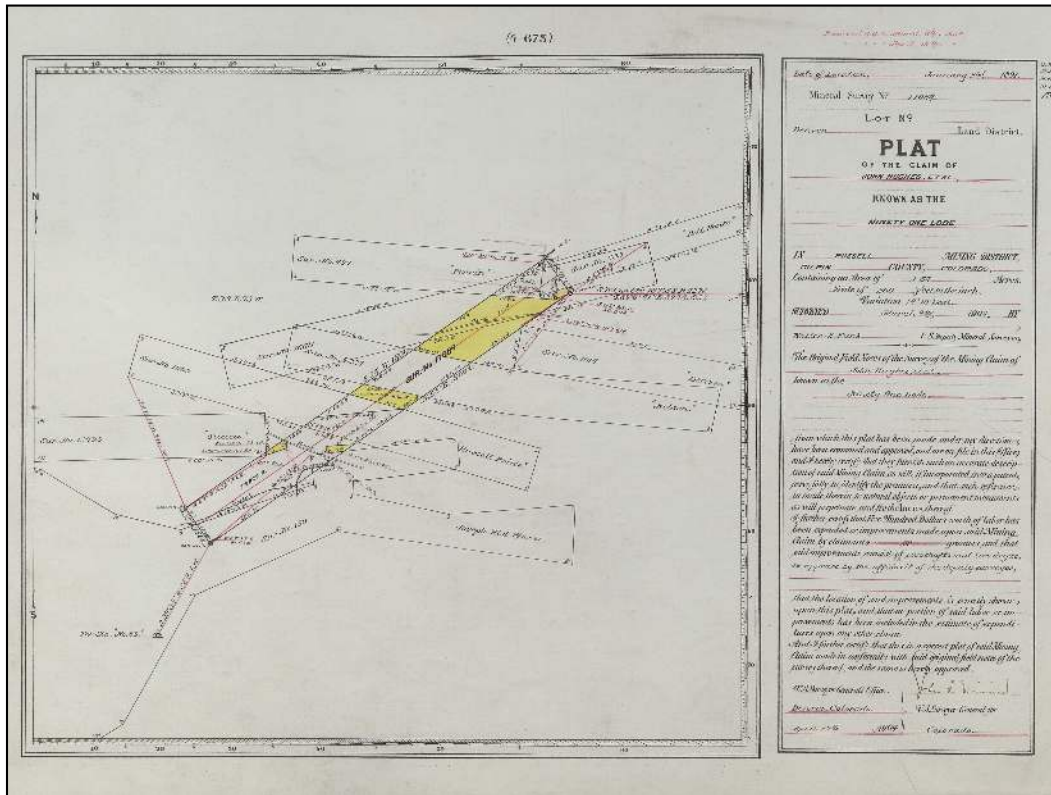


Close-up view of the plat of Sur. No. 15289.

Note: The lengths of the October and Triangle lodes along the lode line are 1175.1 ft. and 1078.2 ft., well short of the statutory maximum length of 1500 ft. authorized by the 1872 Mining Law. There is no rationale given as to why the October and Triangle lodes did not claim the gaps between the three claims, esp. since both end lines are parallel to the respective segments of the westerly side line of the Polaris Lode.



Sketch diagram showing the patent description positions of Surs. Nos. 248 and 249 with respect to the October and Triangle lodes of Sur. No. 15289. The green lines represent the connections to the N¼ Cor. of Sec. 3, T. 9 S., R. 78 W., 6th P.M. that the two patent description positions of the Polaris and Iron Dyke lodes are based upon.



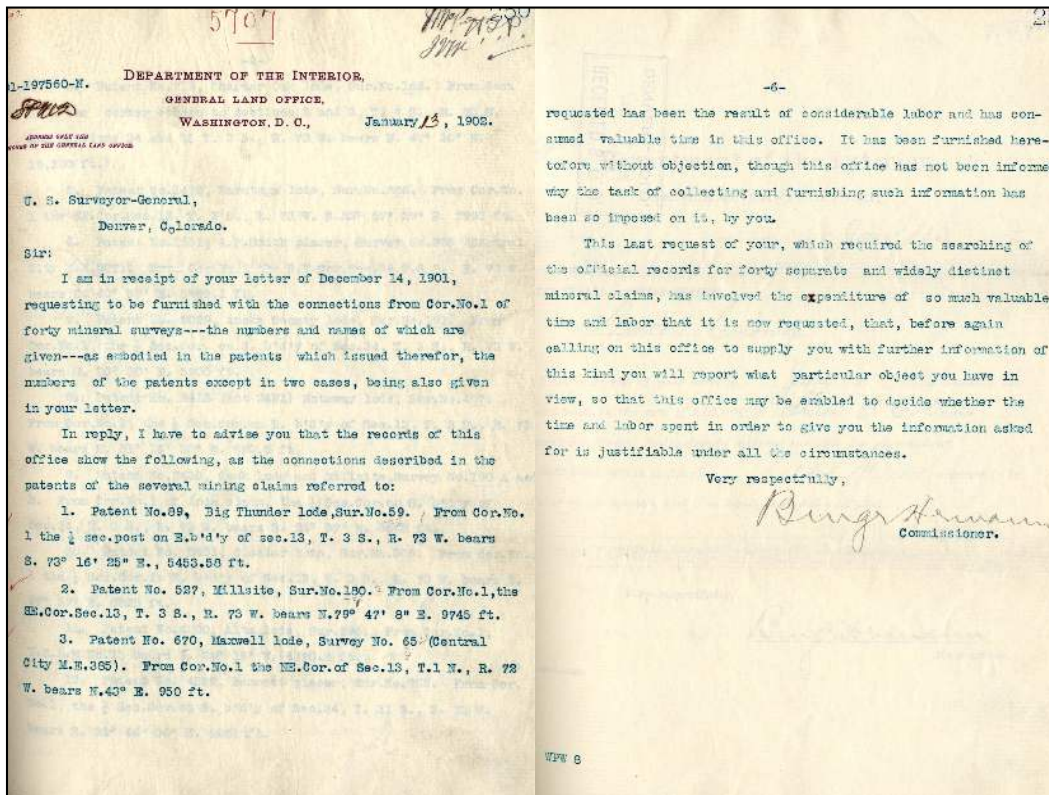
Plat of the Ninety One Lodge, Sur. No. 17084 that was approved one day before the Act of April 28, 1904 that rescinded the five-year policy that patent description positions of prior official surveys be depicted rather than the monumented positions of those senior claims.

This is an example of the use of tracting to exclude the area of true conflict with a prior official survey from the patent (in this example, Tract A).



Close-up of plat highlighting five notations added to the official plat after its approval on December 26, 1872. A black ink notation states, "See Amended notes" that are dated April 28, 1873. A notation in red ink shows the position of Cor. No. 8 of Sur. No. 190-B. The plat also has two notations in red ink regarding amended notes of July 6, 1881 and an associated connection to Station 39 of the Idaho Springs Triangulation Survey that was completed in early May 1881.

Note: The remaining notation in red ink states, "Patented as per Original Notes G.L.O. letter 5707 – 1902." The next slide contains the first and last page of the referenced Departmental letter followed with a second slide showing the information for the A.S. Bennett Placer Claim.



General Land Office Departmental Letter "N" dated January 13, 1902. The top of the first page has "5707" in red ink. This is an index number assigned by the SGO to track the incoming G.L.O. Commissioner's correspondence to the U.S. Surveyor General for the District of Colorado. The letter from the GLO Commissioner's office is in reply to a request from the Colorado Surveyor General to provide the connections to PLSS corners from Cor. No. 1 of 40 mineral surveys.

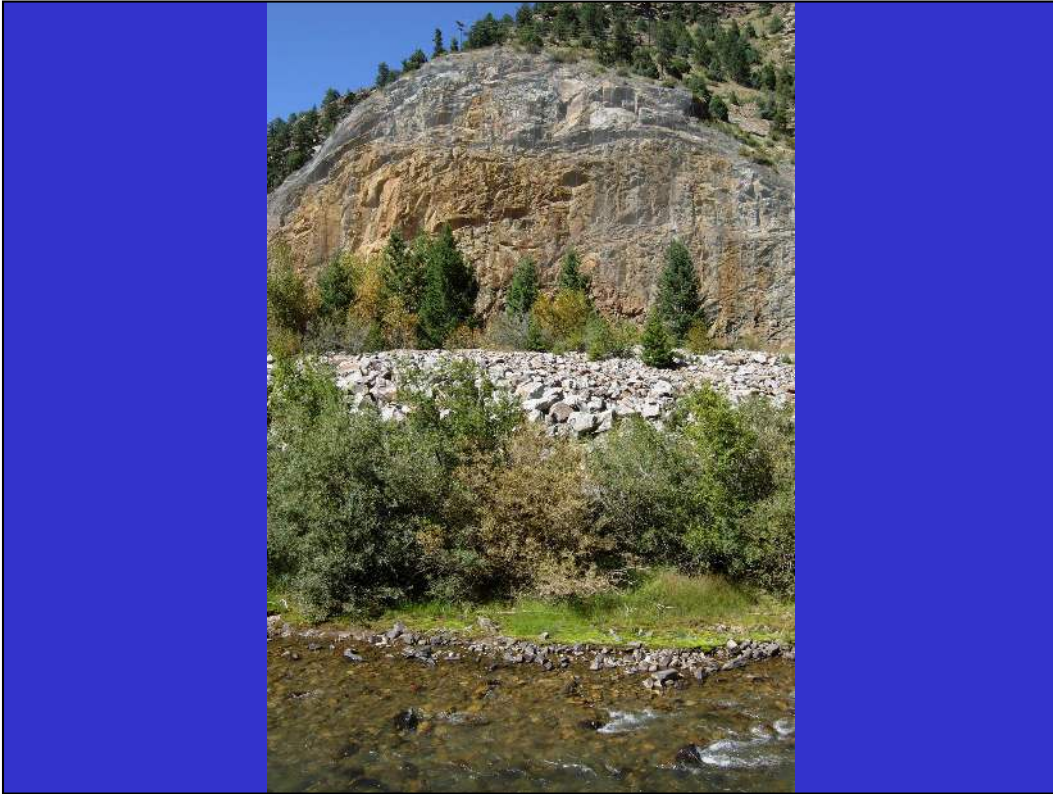
The last page of the Commissioner's letter requests the reason for these requests due to the great effort to provide the information. The requests had been made to verify which connection to be used when showing the patent description positions of prior official surveys in situations where amended notes and/or surveys have been done to correct a material error in the connection.

7. Patent No. 2029, Anoka County lode, Sur.No.191. From Cor.No.1, the $\frac{1}{4}$ Sec.Cor. on S. b'd'y of Sec.34, T. 3 S., R. 73 W. bears S. 25° 30' E. 5900 ft.
8. Patent No. 2418 (not 2421) Notaway lode, Sur.No.407. From Cor.No.1, the $\frac{1}{4}$ Sec.Cor.on E. b'd'y of Sec.13, T. 3 S., R. 73 W. bears N. 81° 16' 53" E. 690.8 ft. ^{10' (as per our notes)}
9. Patent No.2430, Cook lode and Millsite, Survey No.190 A and B. From Cor.No.1 of lode claim, the $\frac{1}{4}$ Sec.Cor.on S. b'd'y of Sec.34, T. 3 S., R. 73 W. bears S. 24° 37' E. 5543 ft.
10. Patent No. 2601, Cissler lode, Sur.No.309. From Cor.No.1 the $\frac{1}{4}$ Sec.Cor.in E. b'd'y of Sec.13, T. 3 S., R. 73 W. bears N. 67° 57' E. 5823 ft.
11. Patent No.4300, Alta lode, Sur.295. From Cor.No.1, U.S.L.M.No.13 bears S. 24° 16' W. 4370.8 ft.
12. Patent No. 4362, Bennett placer, Sur.No.226. From Cor. No.1, the $\frac{1}{4}$ Sec.Cor.on S. b'd'y of Sec.34, T. 31 S., R. 73 W. bears S. 22° 46' 50" E. 6281 ft.

Excerpt from Page 3 of the above Letter "N" (5707). Item 12 lists the connection to use for Patent No. 4362, Bennett placer, Sur. No. 226 when showing its patent position on the plat of the junior survey that has a conflict with the Bennett Placer.



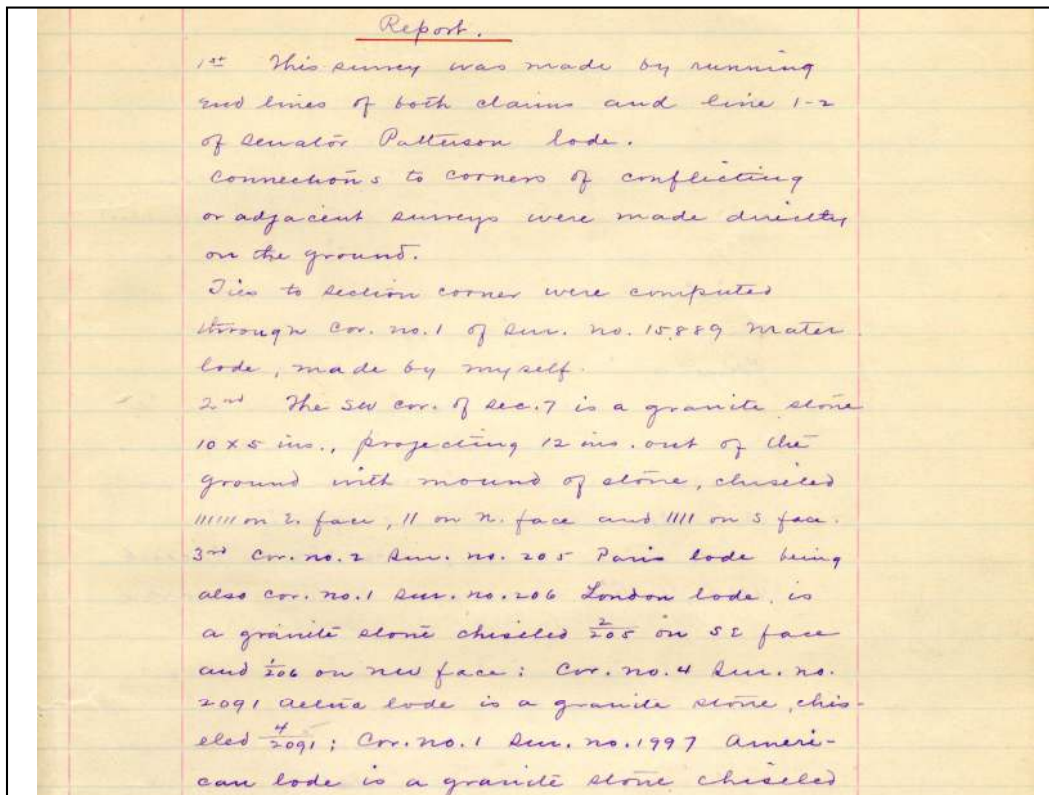
Photograph of the mountainside that the four lode claims of Sur. No. 16256 are draped over. The patent description position of the Bennett Placer, Sur. No. 226 as depicted on the original plat of Sur. No. 16256 would be on the rock face.



Another photograph of the area showing South Clear Creek in the foreground. I-70 is between the creek and rock face.



Photograph looking to the north-northeast of the same rock face that the Bennett Placer's patent description position is draped across.



There is no evidence that the separate letter reports submitted by the U.S. Deputy Mineral Surveyor along with the preliminary plat and draft field notes were preserved with the official mineral survey records. In September 1904, John F. Vivian, the U.S. Surveyor General for the District of Colorado issued circular instructions that required a "Report" section be included in the official field notes. The Report section contains information similar to the earlier separate letter report.

The next four slides contain the "Report" section from the official field notes of the Senator Patterson and Towne lodes, Sur. No. 17327 that was approved on April 19, 1905.

The Report section describes what lines of the survey were run (Line 1-2 of the Senator Patterson and the end lines of both claims) and lists all corners (including how they were marked) that were found during the retracement of the prior official surveys that adjoin or conflict with the two lodes of Sur. No. 17327.

¹
 1997; Cor. no. 1 Sur. no. 4348 Emma Nevada
 lode is a granite stone chiseled $\frac{1}{4348}$; Cor.
 no. 2 Sur. no. 6223 Ida lode is a granite
 stone chiseled $\frac{2}{6223}$; Cor. no. 3 Sur. no. 6223
 Ida lode is a granite stone chiseled $\frac{3}{6223}$;
 Cor. no. 1 Sur. no. 6223 Ida lode is a
 granite stone chiseled $\frac{1}{6223}$; Cor. no. 4
 Sur. no. 6223 Ida lode is a granite
 stone chiseled $\frac{4}{6223}$; Cor. nos 2-3 Sur. no.
 14297 Philemon and Expansion lodes, is a
 conglomerate stone chiseled $\frac{2-3}{14297}$; Cor. no.
 2-3 Sur. no. 14297 Nina and Philemon lodes
 is an imbedded granite boulder, chiseled
 $\frac{2-3}{14297}$; Cor. no. 3 Sur. no. 14297 Nina lode
 is a schist stone chiseled $\frac{3}{14297}$; Cor. no. 2
 Sur. no. 14297 Expansion lode is a con-
 glomerate stone chiseled $\frac{2-3}{14297}$; Cor. nos.
 4-1 Sur. no. 14297 Expansion and Phile-
 mon lodes is a conglomerate stone chis-
 eled $\frac{4-1}{14297}$; Cor. nos. 4-1 Sur. no. 14297 Phil-
 emon and Nina lodes is a porphyry stone

Continuation of the "Report" section describing the found stone monuments of prior official surveys.

chiseled $\frac{4-1}{14297}$; Cor. 4 Sur. no. 14297 Nava
lode is a porphyry stone chiseled $\frac{4-1}{14297}$.
4th: The courses and lengths of the inter-
secting boundary lines of conflicting
surveys were determined on the ground
5th: The common corner of Sur. no. 204 moth-
er lode and Sur. no. 205 Paris lode are
missing having been carried away by
slides. The position of Cor. no. 2 of the
former which is Cor. no. 1 of the latter was
determined by the bearing rock for it
found on the ground. Cor. no. 4 of Sur.
no. 204 mother lode is in position 300
ft. northeasterly of Cor. no. 1 of said lode
as described above. It is a quartz stone
chiseled $\frac{4}{204}$. Cor. no. 3 Sur. no. 205 Paris
lode, also Cor. no. 6 Sur. no. 206 London
lode is in position about 300 ft.
northeasterly of Cor. nos. 2-1 of said sur-
veys as stated and as described above.
It is a quartz stone chiseled $\frac{3}{205}$ on SE.

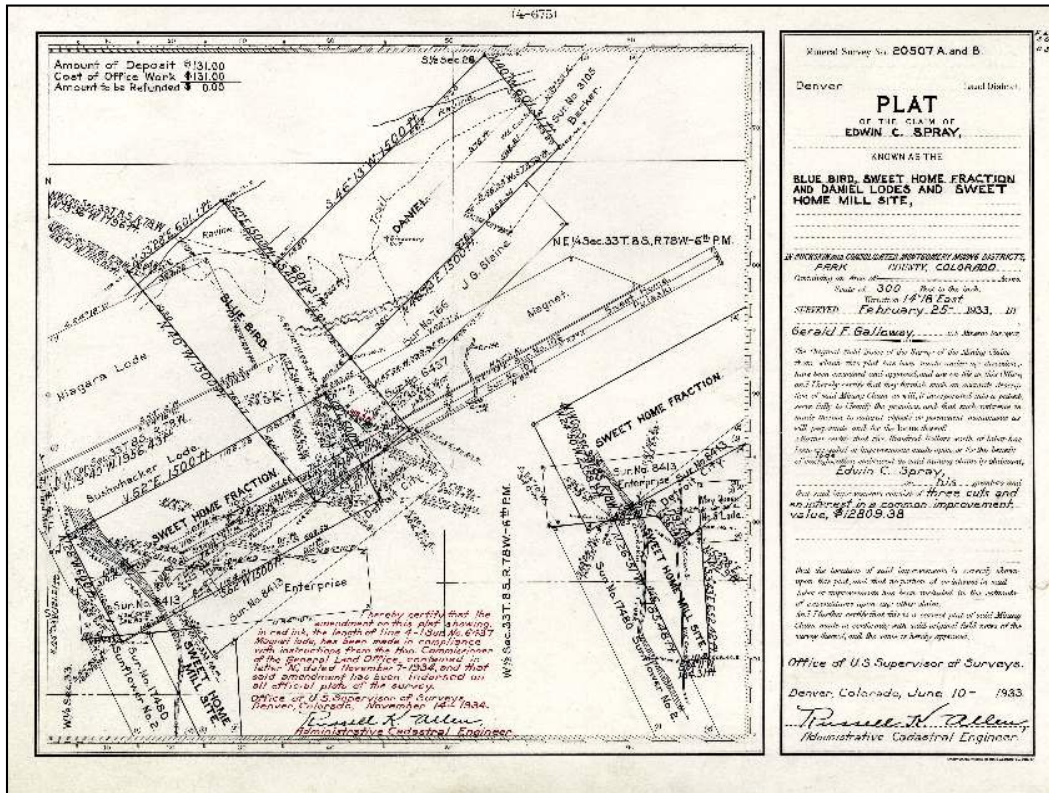
Continuation of the "Report" section describing the found stone monuments of prior official surveys and how a corner that was "carried away by slides....was determined by the bearing rock for it found on the ground."

face and $\frac{6}{200}$ on N.E. face: Cor. no. 4 of
 Sur. no. 4348 Emma Nevada lode is in po-
 sition about 300 ft. northwesterly from
 Cor. no. 1 as staked and as described
 above. It is a granite stone chiseled
 $\frac{4}{4348}$. Cors. nos. 2 and 3 of said Sur. no. 4348
 Emma Nevada lode have been carried away
 by slides.

The Cor. no. 1 Sur. no. 204 Mother lode to
 SW. Cor. Sec. 7 is S. $42^{\circ} 59' 45''$ W. 2175.1 ft. as
 staked. The Cor. no. 1 Sur. no. 4348 Emma
 Nevada lode to SW. Cor. Sec. 7 is S. $51^{\circ} 33'$ W.
 2425.2 ft., as staked.

Line 4-1 Sur. no. 2091 Aetna lode was
 determined on the ground and is N. 34°
 $15' 21''$ W. 1518.5 ft. Line 1-2 Sur. no. 205
 Paris lode was determined on the ground and
 is N. $33^{\circ} 21'$ W. 1504.5 ft. Line 1-2 Sur. no.
 204 Mother lode was determined on the ground
 and is N. $34^{\circ} 8'$ W. 1624 ft.

Continuation of the "Report" section, which describes the
 connections from Cors. Nos. 1 of the Mother Lode, Sur. No. 204
 and the Emma Nevada Lode, Sur. No. 4348 to SW Cor. Sec. 7.
 The connections include statements that the measurements were
 made between the corners, "as staked." This term was included
 in Vivian's instructions to denote that the mineral surveyor
 actually measured the lines rather than substituting record
 measurements of the prior official surveys.



Plat of the Blue Bird, Sweet Home Fraction and Daniel lodes, and the Sweet Home Mill Site, Sur. No. 20507 A and B that was approved on June 10, 1933. The plat has an additional certification in red ink to validate the insertion of a missed dimension on the plat.

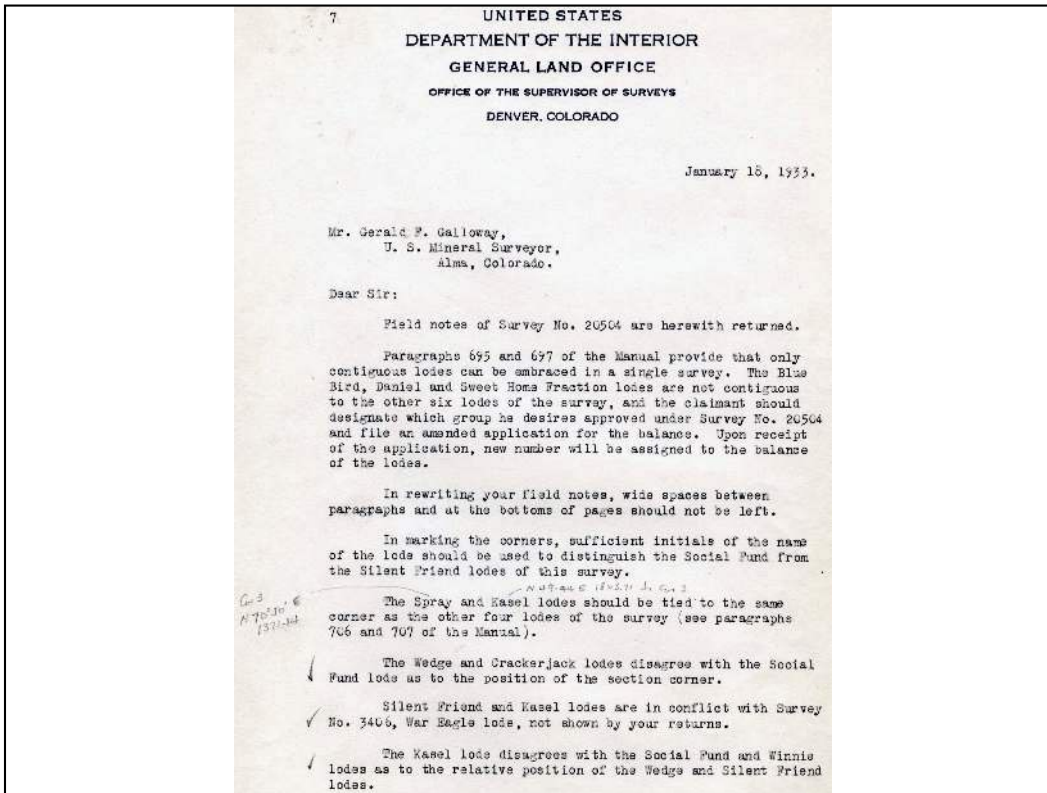
Other Corner Descriptions.

Sur. No. 106 Sweet Home Lode: Cor. No. 1 was found in place and properly marked. Cors. Nos. 2 and 3 were destroyed. Cor. No. 4 had fallen over into an old ditch and about 5 ft. out of true position. Line 2-3 is shown 50 ft. long as approved and on line 2-3 Sur. No. 107 Pulaski lode projected; as thus fixed line 2-3 is S. 28° 00' E. instead of S. 26° 57' E. as approved, and line 1-2 is N. 61° 58' E. 2834.83 ft. instead of N. 63° 03' E. 2700 ft. as approved. Cor. No. 4 is shown on line 1-2 Sur. No. 107 Pulaski lode at S. 28° 00' E. from Cor. No. 1; as thus fixed line 3-4 is S. 62° 00' W. 2834.83 ft. instead of S. 63° 03' W. 2700. ft. as approved, and line 4-1 is N. 28° 00' W. 48.3 ft. instead of N. 26° 57' W. 50 ft. as approved.

Sur. No. 766 J. G. Blaine Lode: Cor. No. 1 was found properly marked but slightly fallen over in the rock slide, and was set in its original position. Cor. No. 2 was found in place and properly marked. Cor. No. 3 was destroyed. Cor. No. 4 had fallen out of place down a cliff and was replaced in the mound of stones where it was originally. Line 1-2 bears N. 43° 54' W. 299.95 ft. instead of N. 44° 19' W. 300 ft. as approved. Line 4-1 was found to be S. 46° 13' W. 1462.5 ft. instead of S. 45° 41' W. 1500 ft. as approved. Line 2-3 is shown parallel with, and same length as, line 4-1.

Sur. No. 3105 Becker Lode: Cors. Nos. 2, 3 and 4 could not be found. Cor. No. 1 is identical with Cor. No. 4. Sur. No. 3106 Colorado Springs lode, which was found fallen over but was reset in its original position. Lines shown as approved.

Circa 1932, the "Report" section of mineral survey field notes was renamed to "Other Corner Descriptions." This example is from the field notes of Sur. No. 20507 A and B.



The remaining four slides include three letters between the General Land Office Supervisor of Surveys and the mineral surveyor of Sur. No. 20507 A and B regarding issues to be addressed prior to approval of the mineral survey. This correspondence is normally not available to the modern surveyor, but does provide information about the continued policy of showing the approved positions of prior official surveys whenever the mineral surveyor is unable to find them during his retracement of conflicting senior lines.

Mr. Gerald F. Galloway.

✓ The Wedge lode disagrees with all other lodes of this survey as to the position of the Winnie lode.

✓ You report Line 3-4 of the Privateer lode to be N. 36° 32' E. while it is shown in your field notes as N. 36° 29' E.

You report Corners Nos. 1 and 2 of Survey No. 766, J. G. Blaine lode, to be standing, and Corners Nos. 3 and 4 as destroyed. You also report that line 4-1 is shown as approved, which is S. 45° 41' W., 1500 feet, yet in your field notes you show this line to be S. 45° 13' W., 1462.5 feet. Unless evidence can be found on the ground to fix the east end corners of this claim, the position of the corners should be shown as approved.

Your survey disagrees with Survey No. 8413, Enterprise and Detroit City lodes, and with Survey No. 8411, Highland Mary lode, as to the position of the section corner. This error should be covered in your report.

The mill site should not be in conflict with patented lode claims. The boundaries should be changed so as to eliminate the conflict with the Detroit City lode.

You should report the evidence by which the location of the Hay Queen No. 5, Bushacker and Niagara lodes, unsurveyed, was determined.

The quantities in the area statement should be carried to only three places in decimals.

Survey No. 8413, Enterprise lode, claims credit for a 30-foot tunnel valued at \$500 which appears to be the beginning of your common improvement tunnel as described. If this is the case the statement should be made as indicated by pencil notation.

Your report should cover in full the evidence by which the bearing and distance of all intersected lines were determined.

The copies of the location certificates sent you with the order for survey should be attached to your returns.

Your attention is further directed to marginal notations indicating disagreements with the record and other data required.

Return all old papers with the rewritten field notes. Make necessary corrections and promptly return.

Very truly yours,

Russell H. Allen
Administrative Cadastral Engineer.

JF

Page 2 of the January 18, 1933 correspondence from GLO Supervisor of Surveys, Russell Allen to U.S. Mineral Surveyor, Gerald F. Galloway. The paragraph highlighted in red queries the mineral surveyor about the evidence found for the J.G. Blaine Lode, Sur. No. 766 and, "Unless evidence can be found on the ground to fix the east end corners of this claim, the position of the corners should be shown as approved."

January 21st. 1933.

Mr. Russel E. Allen
Administrative Cadastral Engineer
Office of the Supervisor of Surveys
Denver, Colorado.

My dear Sir:-

Your letter of January 18th. received with the field notes of Survey No. 20504.

I had the idea that these claims would be considered as one group because they are tied together in a group of common ownership. However, the claimant, no doubt, will make an amended application for survey as you suggest.

Cor. 1 of Sur. No. 3106 Colorado Springs lode was found fallen over but in a large mound of stones. So I took it as being the correct corner. And Cor. 4 of Sur. No. 766 J. G. Blaine had fallen off the edge of a cliff down onto a ledge six feet below. The original mound of stones remained fairly intact. So I placed the corner stone back in the mound of stones. However I will report more fully, - only I don't want to get too tedious.

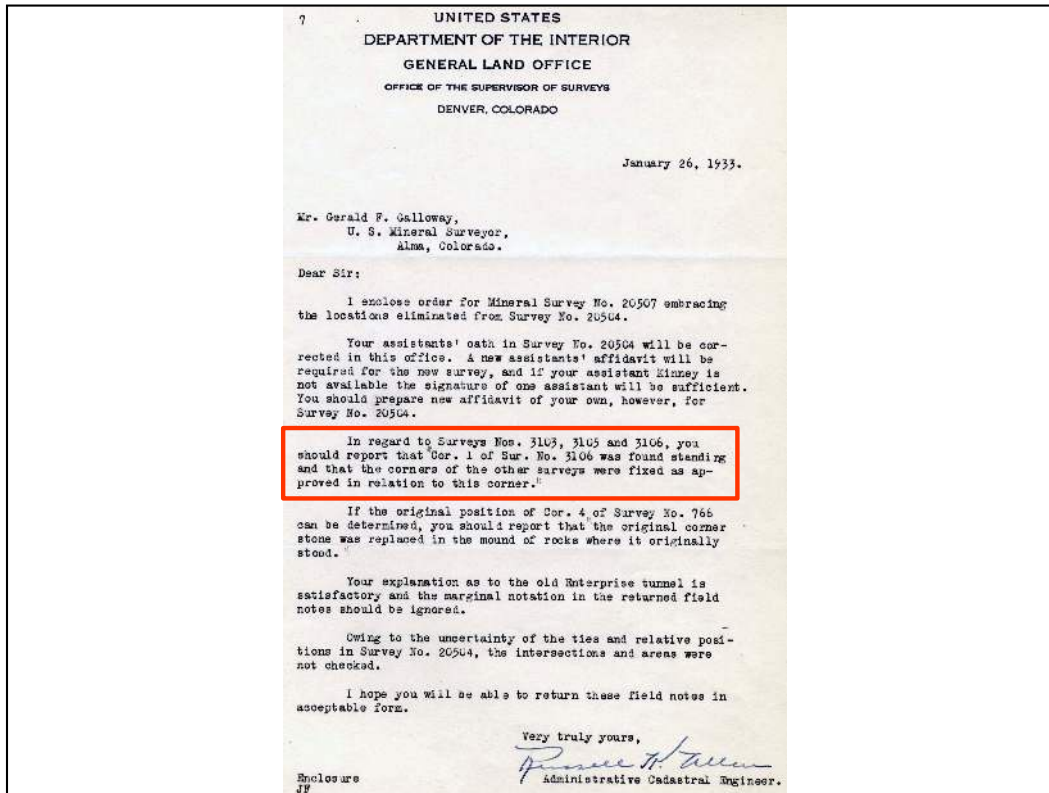
The old Enterprise tunnel caved in and a new tunnel was started just above it. The newly broken rock was filled into the old tunnel. The portal is still visible a little to one side and below the new tunnel.

Thank you so much for your helpful criticisms.

In the new arrangement of surveys, will you require new final oaths to be made for Sur. No. 20504? The one helper Kinney has left the country.

Very truly yours,

Letter from Deputy Galloway dated January 21, 1933 that answered questions in the January 18 letter from Mr. Allen. The paragraph highlighted in red, discusses what evidence had been found for Cor. No. 1, Becker Lode, Sur. No. 3105 and Cor. No. 4, J.G. Blaine Lode, Sur. No. 766.



Reply from Mr. Allen authorizing a new survey number for the Blue Bird, Sweet Home Fraction and Daniel lodes, and the Sweet Home Mill Site, Sur. No. 20507 A and B. The paragraph highlighted in red suggests what Mr. Galloway should include in the "Other Corner Descriptions" section of the field notes (See the third paragraph of the earlier referenced slide labeled "Other Corner Descriptions").