

Reconnaissance Report  
Brush Heap Mine  
Kingston Mining District  
Sierra County, New Mexico

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NMBM&MR, May, 1980

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Introduction

The mine commonly referred to as the Brush Heap consists of three patented lode mining claims as follows: M.S. 798A Brush Heap; M.S. 798B Andy Johnson; M.S. 799 Black Eyed Susan. Largely as a result of the recent surge in precious metal prices, with silver and gold apparently stable at the \$10 to \$20 and \$500 to \$600 per ounce range, respectively, this area has generated considerable interest. Two inquiries regarding the Brush Heap group in particular were received by this office during March, 1980. The site was therefore visited by the authors on April 25, to determine exact location, accessibility, ownership, condition of workings, and other pertinent data.

Ownership

Sharon Steel Corporation (previously U.V. Industries, a/k/a U.S. Smelting, Refining, and Mining Company), P.O. Box 406, Hanover, New Mexico 88041 presently owns an undivided one-fifth (1/5) interest in the group. Other owners, were not determined for the present report. Remaining ownership data will be included in a supplementary report when available.

Location and Access

The claims are located on the north slope of a ridge separating Ladron Gulch and Middle Percha Creek about a mile

west - northwest of Kingston. They lie in an unsurveyed portion of T16S, R9W, in an area corresponding to sections 12 and 13. These and other claims in the area are shown in fig. 1, an enlargement of a portion of the Hillsboro 15 minute quadrangle. A road from Kingston to Ladron Gulch provided access in years past but is now blocked by private dwellings and locked gates. The mines can be reached by driving to the Calamity Jane Tunnel (#1, fig. 1) on Middle Percha Creek and then hiking up the ridge to a prominent dump (#2, fig. 1) where a primitive road is encountered. This road continues up the ridge to a saddle then turns back to the northwest toward the Andy Johnson and Black Eyed Susan and is doubtless the route by which materials were brought in and ore shipped out in the early days of mining. This hypothesis is supported by the fact that the road passes close by most of the older surface workings on the Brush Heap and Andy Johnson claims (the Black Eyed Susan claim was not visited).

The main Brush Heap workings (#3, fig. 1) can just be seen through the trees northwest of the saddle on this road. The three claims are surrounded by several other mineral surveys. This data is summarized in table 1.

### History and Production

Little has been written regarding the properties in the past. The few references extant are scarce and difficult of access. The data is therefore summarized below.

Table 1. Mineral surveys and patents in Ladron Gulch/Brush Heap Area

Mineral Survey #	Name(s)	Claimant (at time of patent)	Patent #	Date	Acreage
452	Illinois	Illinois Silver Mining and Milling Co.	11911	4/19/87	15.76
559	Louisville	H.C. Collins	22211	11/2/92	14.76
616	Independence	Ladron Gulch Mining Co.	21571	7/1/92	15.99
617	Little Stephen	"	23441	10/2/93	12.67
620	U.S.	English & American Mining Co.	17258	2/7/91	18.6976
674	Eclipse	Eclipse Silver Mining Co.	19617	2/6/92	18.61
798A	Brush Heap	H.W. Elliot, et al.	19310	1/8/92	19.3652
798B	Andy Johnson	H.W. Elliot, et al.	19311	1/8/92	19.8041
799	Black Eyed Susan	H.W. Elliot, et al.	19309	1/8/92	17.8145
837	Lochiel	J.H. Tracy	22121	10/18/92	4.71
838	Little Chief	J.H. Tracy	21970	9/24/92	13.07
839	Susan Jane	J.H. Tracy	22029	10/1/92	19.86
929	Saratoga	Illinois Silver Mining and Milling Co.	24248	4/18/94	9.38
992	Good Will	Elizabeth P. Haynes	29910	10/1/98	19.3585
	Samos	"	"	"	
1464	Atlas Group <sup>1/</sup>	Cony T. Brown	rejected	-	184.898
1525	N.Y. Group <sup>2/</sup>	Cony T. Brown	433092	9/24/14	43.467

<sup>1/</sup> Group includes Atlas, Tall Pine, Peerless, Matchless, Climax, Indicator, Satisfaction, Bel Burke, Bel Burke Extension, and Pride of the Camp

<sup>2/</sup> Group includes N.Y., N.Y. No. 1, Johnny

According to Fayette Jones (1904, p. 95, 96), "there were two parties of prospectors who first entered the Black Range district ... at the present site of Kingston ... in the latter part of October, 1880."

The first party included Frank Pitcher, Dan Cameron, Jim Wilson, and H.W. Elliot. After they had staked some of the earlier locations, such as the Iron King (M.S. 394A) and Empire, "the Brush Heap [was located] by a late arrival having the name of Johnson", (Jones, 1904, p. 96). Two of the first party, Forbes and Elliot, subsequently located the Andy Johnson and Black Eyed Susan and apparently gained control of the Brush Heap from Johnson (Greene, 1883, p. 27).

Burchard (1882, p. 348), in his report for 1882 stated, "The Andy Johnson is an extension of the Iron King ... It is developed by several shafts.<sup>1/</sup> The Black Eyed Susan is also a contact vein between lime and slate<sup>2/</sup> with the same character of ore as the Andy Johnson. The Brush Heap is a most promising mine."

A year later, the Brush Heap, Andy Johnson, Black Eyed Susan, and others were still 'promising' mines. But Greene (1883, p. 27, 28) described them in greater detail, "The discovery of [these] was the cause of the first excitement ever experienced by the Percha district, as from ore found within them, very high assays were obtained." Of the three claims, the Andy Johnson was originally thought to be the most promising prospect and received the majority of attention. Greene

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<sup>1/</sup>most of these "shafts" appear to be prospect pits

<sup>2/</sup>actually "shale"

continued, "It has been opened on the vein by a shaft 115 feet deep and two levels run on the vein, one at thirty feet from the surface and one from the bottom. The ore throughout will average thirty inches in thickness and ranges in value from \$10 to \$1,000 per ton. No general average of the vein was ever taken but assorted lots mill upwards of \$100 per ton ... The Andy Johnson was the first mine in the district to give a high assay return, a piece off the outcrop going \$750 [per ton]." (See, for example, NMBM&MR sample #4, Table 2.)

The Black Eyed Susan and Brush Heap were much less developed at this time, the latter least of all. The former was "opened by an adit twenty-five feet in length showing ore from two to three feet wide the whole distance. It averages \$50.00 in silver and from thirty to forty percent in lead." The Brush Heap [was] "opened in several places on the surface, the principle work being an open cut, six by ten feet. The vein here is fully six feet wide and filled with ore from wall to wall. Some very high assays have been had from ore out of this mine, but the general average, as determined by actual tests made by disinterested parties is \$61.00 in silver." (Greene, 1883, p. 28).

The rather large dump which can presently be seen on the Andy Johnson (apparently not shown on the map) could easily account for the development described by Greene. Little other work appears to have been done except for numerous surface cuts and an occasional open stope, one of which was mined to a depth of 25 feet or more. The narrow vein,  $1\frac{1}{2}$  to 3 ft. wide at this point, had been carefully mined, both the hanging and footwalls

remaining intact. Remains of a ladder were encountered some 30 ft. from the inclined entrance; it led 10 to 15 ft. down into a wide opening, possibly a mined out wide spot in the vein. This opening could possibly connect with the Andy Johnson workings about 100 feet distant. However, for the lack of a rope, this was not determined. The numerous surface cuts still visible are testimony to the intensive prospecting during the first few years of mining.

By 1885, the Brush Heap, among other properties, was "shipping silver ore in paying quantities" (Kimball, 1885, p. 172). Although not specifically mentioned in the above report, it is likely, from the following, that the Andy Johnson was 'among other properties': "The greatest producers [in the Kingston district] have been the Andy Johnson, Bullion, Brush Heap, Black Colt, Comstock, Caledonia, Lady Franklin, Log Cabin, and Templar" (Kimball, 1887, p. 233).

The Brush Heap in fact continued to be a major producer in the district until 1893 when most, if not all, of the mines closed as a result of the demonitization of silver and the sudden crash of the silver market. How much silver and other metals were produced by the mine is presently unknown. The authors are unaware of any maps, reports, smelter settlement sheets or other documents from the early days of mining; thus, no exact figures may be assigned to the property. There are some clues, however.

The entire Kingston district is credited with a production of \$6,250,000 through 1904 (Jones, 1904, p. 98), most of which was mined prior to 1894. A note in the Bullion (Longuemare,

1891, p. 3) offers the following: "The Brush Heap Mine, under the superintendency of Thos. S. O'Neal, continues to make its output of mineral and has produced about \$10,000 per month since June, 1890." The item was dated August 27, 1891 and thus represented a time span of at least 14 months, or if the figures are accurate, approximately \$140,000. Hedlund (1977, pt. 2) says the Andy Johnson/Brush Heap mines may have produced as much as 500,000 ounces of silver.

The authors draw the following conclusions: since the mine was producing silver in paying quantities by 1885, was among the best producers two years later, and was producing at the rate of \$10,000 per month by mid-1890, Hedlund's figure is probably acceptable.

### Geology and Mineralogy

The ore deposits of the Kingston district are predominantly veins and replacement deposits in Paleozoic sedimentary rocks. The stratigraphic sequence of these rocks in the area is as follows:

Age	Formation	Rock Type
Permian	Abo	sandstone, mudstone
Pennsylvanian	Magdalena Group	limestone, shale
Mississippian	Kelly/Lake Valley	limestone
Devonian	Percha	shale
Silurian	Fusselman	dolomite
Ordovician	Montoya Group	dolomite, chert, sandstone
	El Paso	limestone
Cambrian	Bliss	sandstone



This Paleozoic sequence dips moderately to the east - southeast from  $10^{\circ}$  to  $40^{\circ}$ , and is cut by numerous high-angle faults. They in turn are overlain by Cretaceous and Tertiary sediments and volcanics intruded by Cretaceous stocks and Tertiary dikes and plugs. According to Hedlund (1975, p. 16), "The silver-bearing base metal deposits are primarily of middle Tertiary age and are located along major north - northwest striking faults." This would indicate the ore deposits are associated with Tertiary volcanism and possibly with earlier Cretaceous plutonism.

No Permian or Cretaceous rocks are exposed in Ladron Gulch. The youngest rocks are Lake Valley Limestone overlying Percha Shale and Fusselman Dolomite (fig. 2).

The most important deposits are bedding replacement and veins in the Fusselman; those in the Brush Heap-Andy Johnson area are found along the Fusselman-Percha contact. Here, hot mineralizing solutions rising through the Fusselman or channeled along faults were localized by the impermeable Percha. Other deposits occur along major faults in the area, most notably the Ladron fault and Iron King fault to the north (fig. 2). Ore minerals observed included argentiferous galena, sphalerite, pyrite, and chalcopyrite. Others reported by Hedlund but not observed by the authors include cerargyrite, and polybasite. Gangue minerals observed were quartz, calcite, and talc.

Four grab samples chosen to represent different rock types were collected for analysis from the Brush Heap dump (table 2). Sample 1 was chosen because of its apparent low manganese content; it was composed of quartz, calcite, and dolomite associated with minor pyrite. Sample 2 was chosen because of its apparent high manganese content; it was largely quartz, dolomite, manganese oxides and pyrite. Sample 3 was almost entirely calcite and limestone. It assayed very low in silver as expected. Sample 4 was composed of pyrite, malachite, and quartz and most likely represented the high grade portion of the replacement ore body. It doubtless contained unobserved silver minerals as its silver content was surprisingly high, Greene's mention of \$750 to \$1,000 per ton assays notwithstanding (also see Harley, 1934, p. 103).

Several surface cuts along the Ladron fault on the Andy Johnson were examined. These cuts contained thin seams and veinlets of locally abundant malachite and were occasionally stoped to some depth as described earlier. A sample of the malachite was collected for analyses but results were not available at time of writing.

All samples were analysed by fire assay for gold and silver; Amounts shown do not necessarily indicate tenor of remaining ore, if any.

Table 2		
Sample #	Au, oz/ton	Ag, oz/ton
1	-	6.58
2	-	7.78
3	-	0.17
4	-	582.72



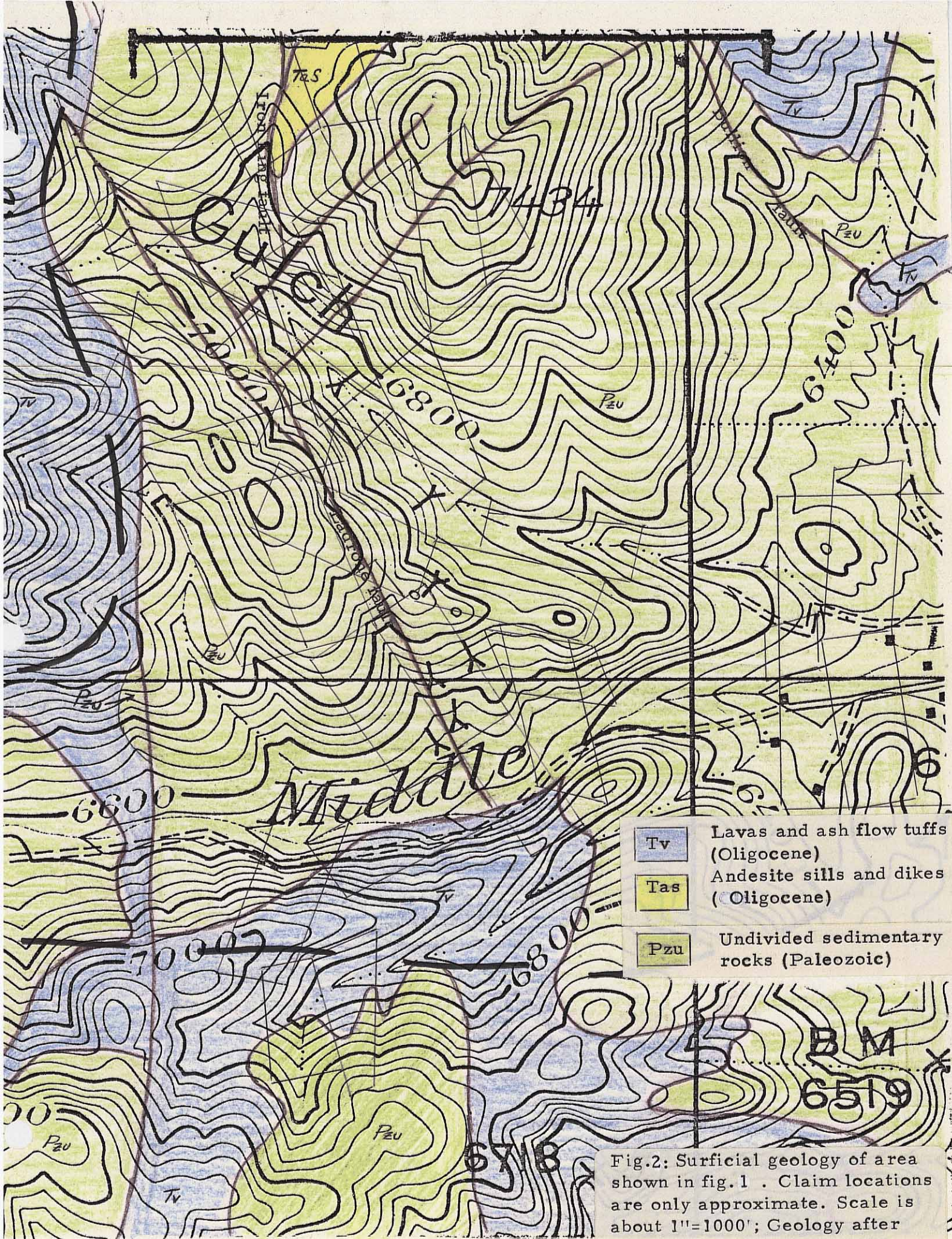


Fig.2: Surficial geology of area shown in fig.1 . Claim locations are only approximate. Scale is about 1"=1000'; Geology after Hedlund, D.C., USGS, 1977.



The absence of gold in all four of these samples was surprising. Most of the production through 1904 was silver, however (Harley, 1934, p. 102). This is further demonstrated by the fact that total silver produced in the district between 1934 and 1957 amounted to 67,940 ounces whereas gold amounted to only 124 ounces or 0.18% (Howard, 1967, p. 129, 130).

### Condition of workings

The main entries to the mines are shafts - all caved. The only adit found is near creek level on the Independence M.S. 616 (#4, fig. 1). This adit is partially caved but could be opened without difficulty. The other adit shown on this map is actually the Brush Heap shaft.

One of the large dumps in Ladron Gulch is probably the 115 ft. shaft mentioned by Greene. The other and larger of the two dumps is the Brush Heap shaft which was doubtless the main production entry. A considerable amount of early day machinery, including furnace, boiler, steam hoist and pump, cage, etc., is still present here (fig. 3). The presence of the pump suggests that significant water was encountered.

The dump extends over 100 feet down the slope toward Ladron Gulch and is indicative of extensive underground workings.

### Conclusions and Recommendations

The Brush Heap Mine closed during the 1890's as a result of the demonitization of its primary commodity, silver. It is likely that significant ground remains unexplored along the Fusselman-



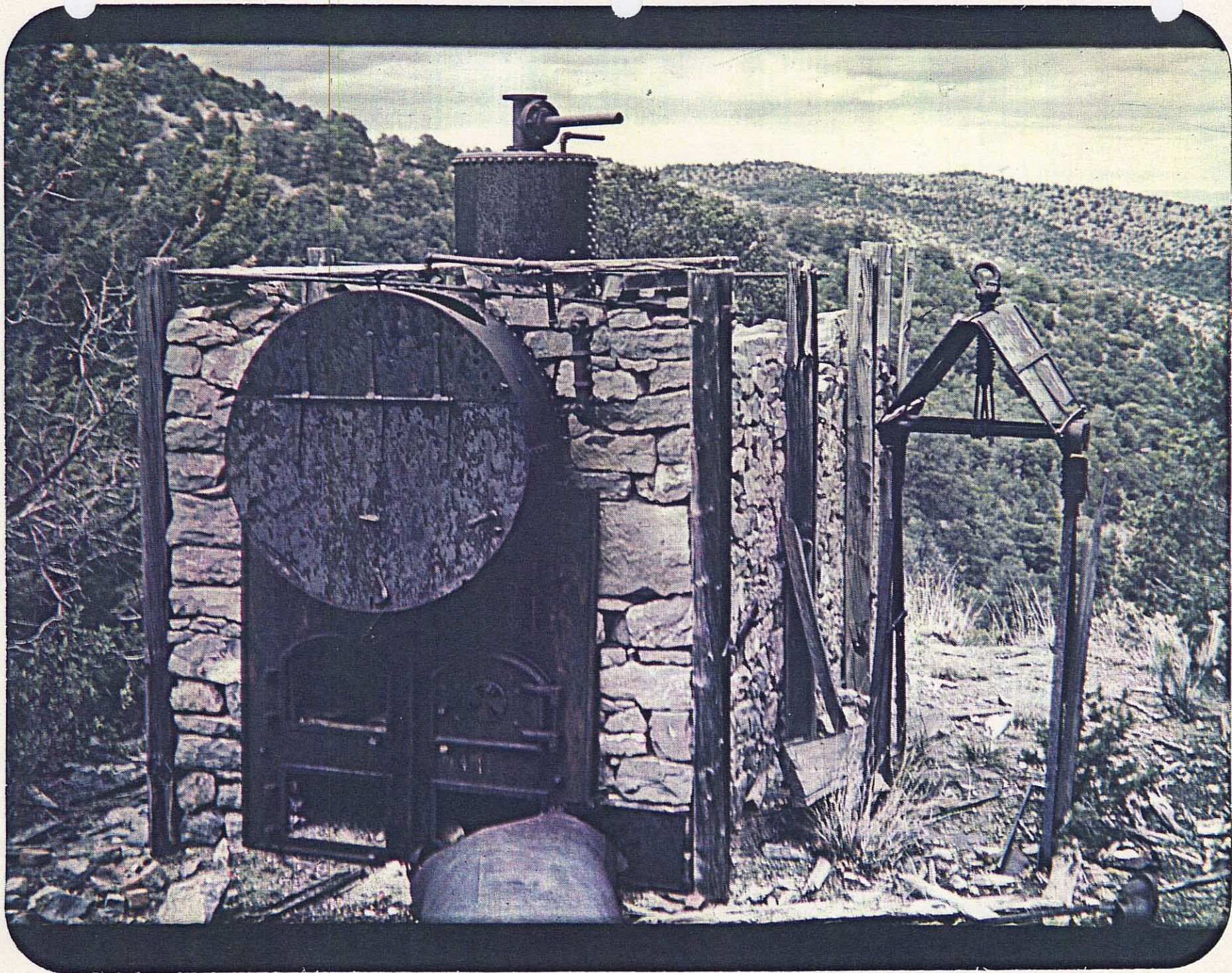


Fig. 3: Furnace, boiler, and cage at Brush Heap Mine, Kingston, New Mexico

Photo by. R. W. E.



Percha contact. Doubtless, some low grade ore remains in the mine, grading perhaps 5-20 ounces silver per ton (Harley, 1934, p. 103, 104).

The main entries are, unfortunately, caved, and would be costly to rehabilitate. The most economic means of re-opening the mine would be:

- 1) Determine ownership of various patents and obtain possession by purchase or lease.
- 2) Conduct an underground examination and preliminary survey of the Independence adit.
- 3) Determine proximity of above adit to Brush Heap shaft and/or workings.
- 4) Rehabilitate and drive to intersect Brush Heap workings.
- 5) If (4) not feasible, collar new adit in Ladron Gulch to achieve above objective.

## References Cited

- Burchard, Horatio C., 1883, Production of Gold and Silver in the United States, 1882, U.S. Treasury Dept., 873 p.
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- Harley, George T., 1934, The Geology and Ore Deposits of Sierra County, New Mexico, NMBM&MR Bull. 10, 220 p.
- Hedlund, D.C., 1975, Geologic Map of the Hillsboro Quadrangle, Sierra and Grant Counties, New Mexico, Description of Map Units, U.S.G.S. Open-file Report 75-108, 19 p.
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- Jones, Fayette A., 1904, New Mexico Mines and Minerals, World's Fair Edition, Santa Fe, 349 p.
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- Longuemare, Chas., Ed., 1891, The Socorro Bullion, Vol. 19 #22, 9/1/91, p. 3

Supplementary Report #1


Brush Heap Mine

Ownership:

Ownership of the Brush Heap group of claims was determined from records at the Sierra County Courthouse as follows:

<u>Owner</u>	<u>Percent Interest</u>
U.V. Industries (Sharon Steel)	20
M.J. Moffitt Estate	20
Rupert Chisholm Estate	20
John A. McDonald Estate	20
Ramona Griffith	10
Emma T. Dougherty Estate	10
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Total	100%

The interests are undivided.

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Robert W. Eveleth  
May 22, 1980



## APPENDIX A

Mineral Survey Plats of Brush Heap, Andy  
Johnson, and Black Eyed Susan Lodes.

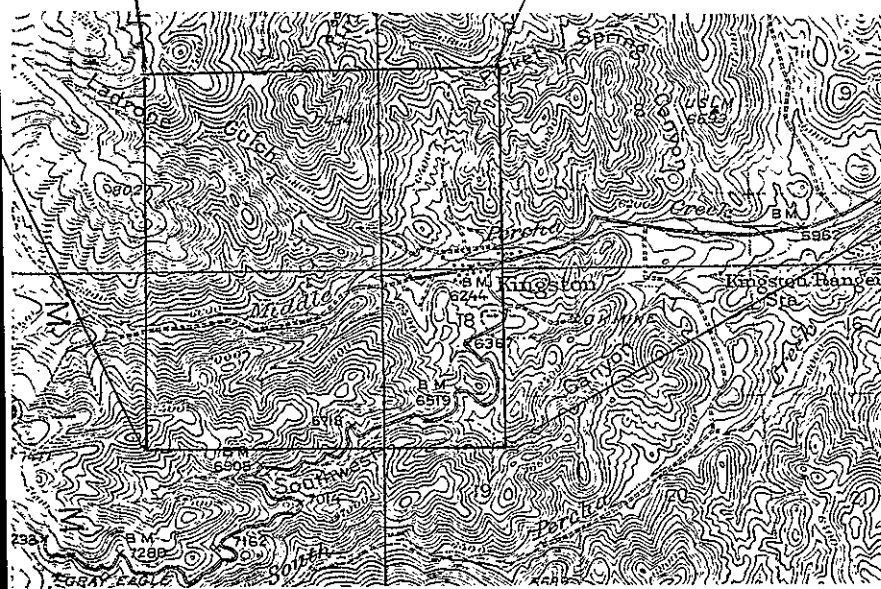
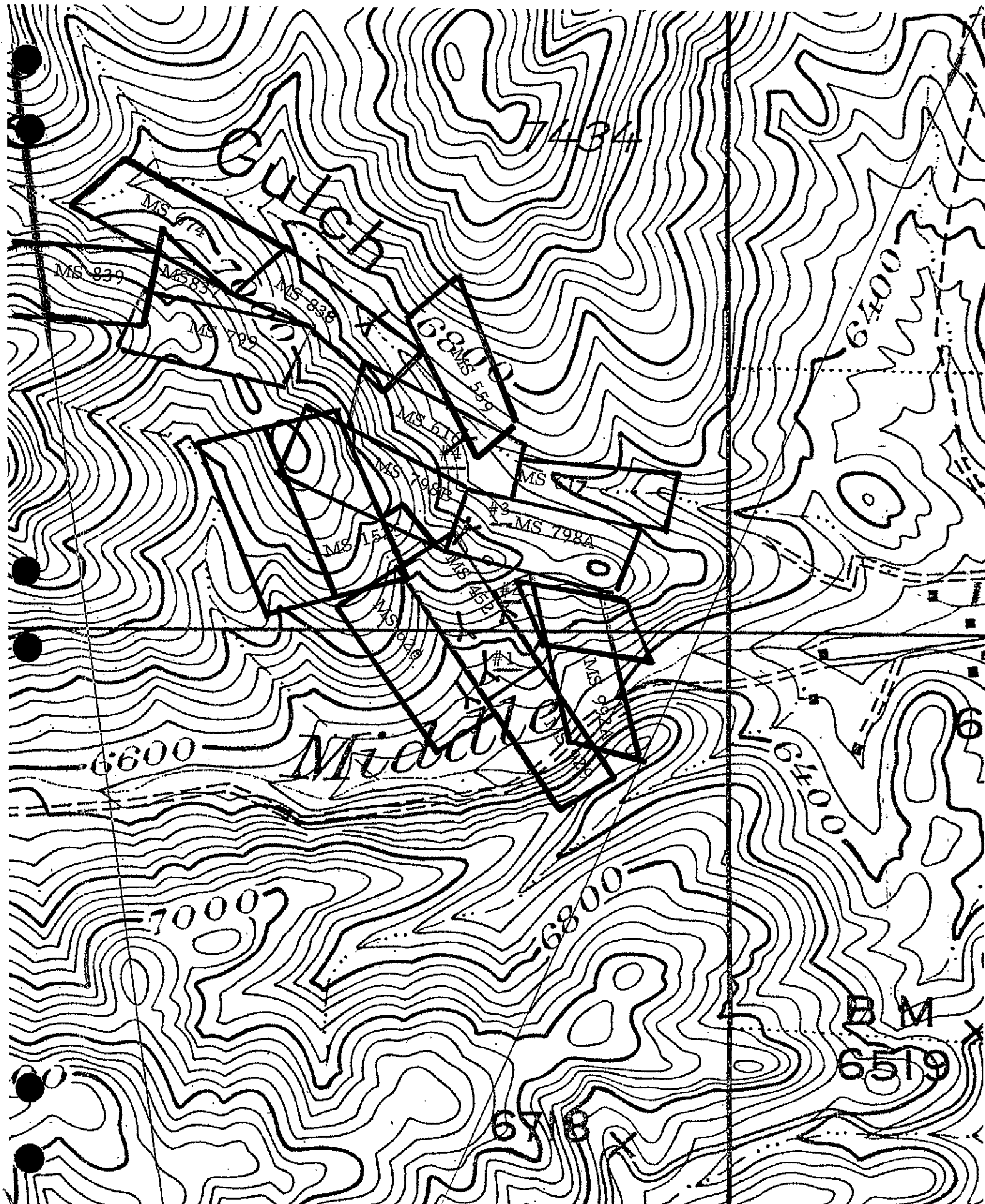


Fig. 1: Enlargement of a portion of the Hillsboro 15' quadrangle showing Ladron Gulch and Middle Percha Creek patented claims. Approximate locations only. Scale: 1"=1000'

Claim Located November 6, 1880

Mineral Survey No 798A.

L.O.T. No  
Las Cruces N.M. Land District.**PLAT**

OF THE CLAIM OF

Harry W. Elliott, et al.  
KNOWN AS THE

Brush Heap Lode

IN BLACK RANGE MINING DISTRICT,  
SIERRA COUNTY, N.M.

Containing an Area of 19.4471 Acres.

Scale of 200 Feet to the inch.

Variation 11° 42' to 11° 50' E.

SITUEED June 7 to 22 1889 BY  
James P. Parker,  
U.S. Deputy Mineral Surveyor,The Original Field Notes of the Survey of the Mining Claim of  
Harry W. Elliott, et al.  
known as the

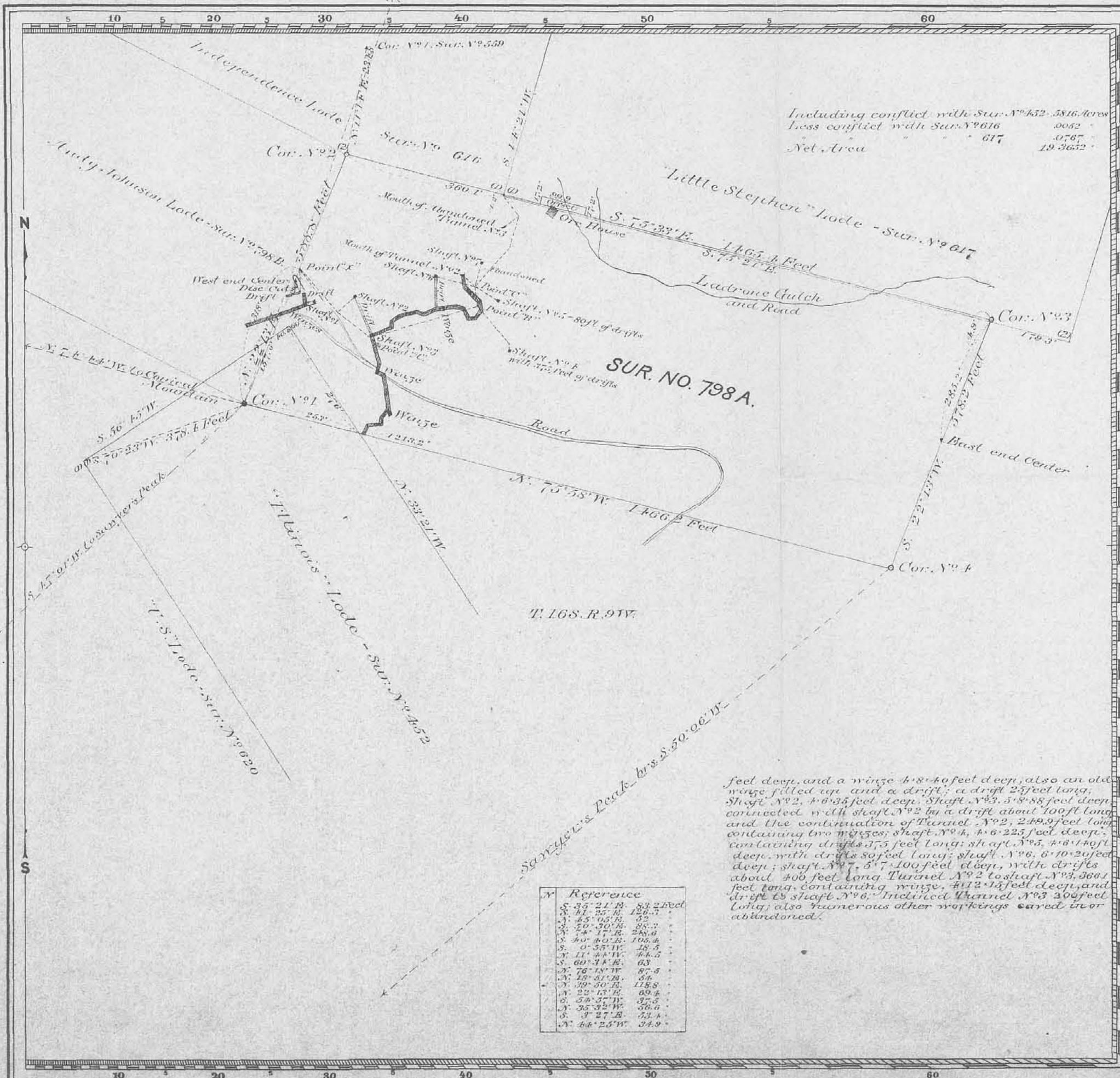
Brush Heap Lode

from which this plat has been made under my direction, have been examined and approved, and are on file in this Office, and I hereby certify that they furnish such an accurate description of said Mining Claim as will, if incorporated into a patent, serve fully to identify the premises, and that such reference is made therein to natural objects or permanent monuments as will perpetuate and fix the locus thereof.

I further certify that Five Hundred Dollars worth of labor has been expended or improvements made upon said Mining Claim by claimants or their grantors, and that said improvements consist of Disc Cut 35 feet long 6 feet wide 3 feet deep at N.W. end, and 15 feet wide, 7 feet deep at S.E. end. Tunnel No 1, 110 feet long, containing shaft No 1, 56 feet deep; that the location of said improvements is correctly shown upon this plat, and that no portion of said labor or improvements has been included in the estimate of expenditures upon any other claim.

And I further certify that this is a correct plat of said Mining Claim made in conformity with said original field notes of the survey thereof, and the same is hereby approved.

U.S. Surveyor General's Office. *Edmond T. Hobart*  
Santa Fe, N.M. } U.S. Surveyor General for  
October 10, 1889 } New Mexico





Claim Located November 6<sup>th</sup> 1880

Mineral Survey No 798 B

Lot No  
Las Cruces Land District.**PLAT**

OF THE CLAIM OF

Harry W. Elliott et al

KNOWN AS THE

Andy Johnson Lode

IN Black Range MINING DISTRICT,  
Sierra COUNTY, New MexicoContaining an Area of 19,804.1 Acres.  
Scale of 200 Feet to the inch.

Variation 11°42' to 12°04'E

SURVEYED June 7<sup>th</sup> to June 22<sup>nd</sup> 1889 BY  
James P. Parker,

U.S. Deputy Mineral Surveyor,

The Original Field Notes of the Survey of the Mining Claim of  
Harry W. Elliott et al  
known as the

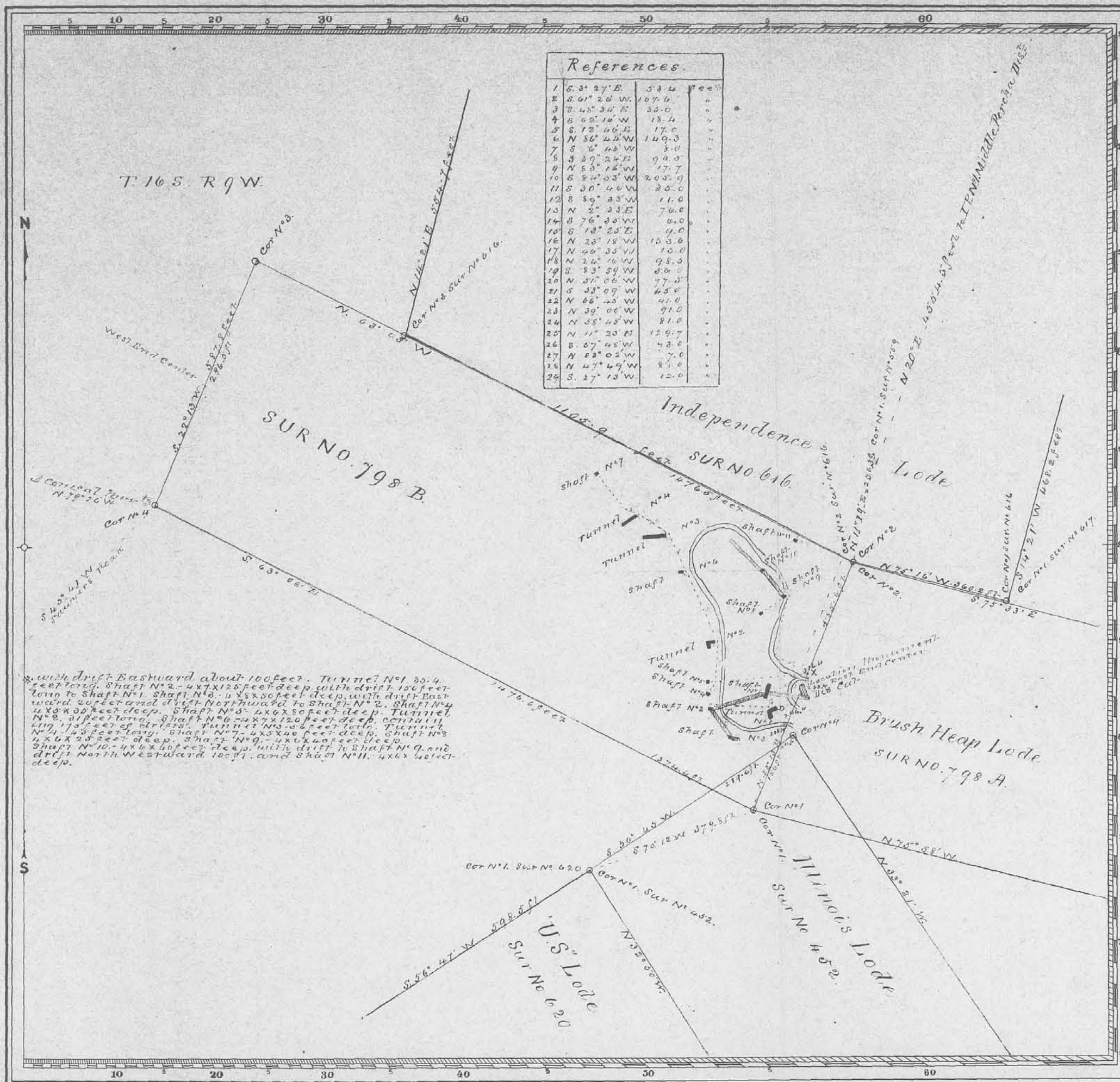
Andy Johnson Lode

from which this plat has been made under my direction, have been examined and approved, and are on file in this Office, and I hereby certify that they furnish such an accurate description of said Mining Claim as will, if incorporated into a patent, serve fully to identify the premises, and that such reference is made therein to natural objects or permanent monuments as will perpetuate and fix the locus thereof.

I further certify that Five Hundred Dollars worth of labor has been expended or improvements made upon said Mining Claim by claimant or their grantors, and that said improvements consist of Disc cut 35 feet long by 6 feet wide & 3 feet deep at its N.W. end, and 15 feet wide and 7 feet deep at its S.E. end. Inclined Shaft No. 1 - 4x8x45 feet deep, & that the location of said improvements is correctly shown upon this plat, and that no portion of said labor or improvements has been included in the estimate of expenditures upon any other claim.

And I further certify that this is a correct plat of said Mining Claim made in conformity with said original field notes of the survey thereof, and the same is hereby approved.

U.S. Surveyor General's Office. *Edward H. Hobart*  
Santa Fe, N.M. U.S. Surveyor General for  
October 10<sup>th</sup> 1889 New Mexico





Date of claim Location.November 6, 1880SURVEY No. 799DISTRICT Las Cruces**PLAT**OF THE CLAIM OF  
Harry W. Elliott et. al.

UPON THE

Black Eyed Susan LodeBlack Range MINING DISTRICT,  
Sierra COUNTY,  
TERRITORY OF NEW MEXICO,Containing an area of 17.8145 Acres.Scale of 200 Feet to the inch.  
Variation 12° 06' East.

SURVEYED BY

James P. Parker

U. S. Deputy Mineral Surveyor.

June 17, 20. 1882The original Field Notes of the Survey of the Claim of  
Harry W. Elliott et. al.upon the  
Black Eyed Susan Lode

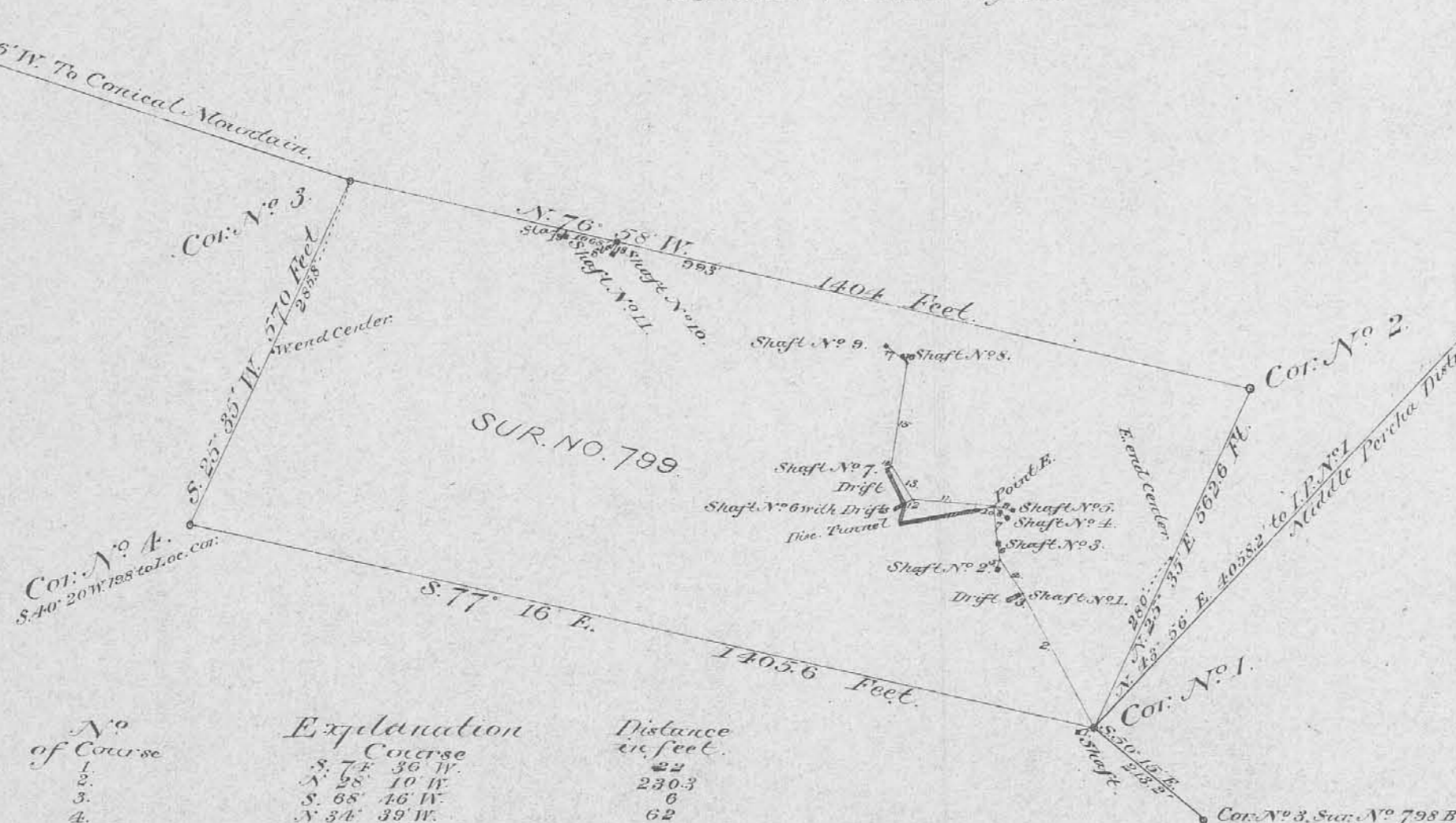
from which this plat has been made, have been examined and approved, and are on file in this office; and I hereby certify that they furnish such an accurate description of said Mining Claim as will, if incorporated into a patent, serve fully to identify the premises, and that such reference is made therein to natural objects, and permanent monuments as will perpetuate and fix the locus thereof. I further certify that the value of the labor and improvements placed thereon by the applicants or their grantors is not less than Five Hundred Dollars, and that said improvements consist of Shaft No. 1 46.29 ft. deep with Drift 14 ft. long. Inclined Shaft No. 2 46.40 ft. deep. Cross Shaft No. 3 46.40 ft. deep. Shaft No. 4 45.10 ft. deep. Shaft No. 5 46.40 ft. deep. Disc Tunnel

as appears by the affidavit of the Deputy Surveyor. And I further certify that this is a correct Plat of said Mining Claim made in conformity with said original field notes of the survey thereof.

U. S. Surveyor General's Office,  
Santa Fe, N. M.July 29 1882

U. S. Surveyor General for New Mexico.

T. 16 S. R. 9 W. unsurveyed.



No of Course	Explanation	Distance in feet.
1.	S. 77° 36' W.	22
2.	N. 28° 10' W.	230.3
3.	S. 68° 46' W.	6
4.	N. 34° 39' W.	62
5.	S. 18° 21' W.	15
6.	N. 7° 02' W.	24
7.	N. 7° 02' W.	77.8
8.	S. 48° 24' E.	23
9.	S. 76° 54' E.	32
10.	S. 76° 31' W.	20
11.	N. 55° 54' W.	124.6
12.	S. 61° 51' W.	12
13.	N. 32° 24' W.	61
14.	S. 51° 36' W.	6
15.	N. 9° 36' E.	158
16.	N. 34° 24' W.	10
17.	N. 51° 54' W.	40
18.	S. 13° 02' W.	16
19.	S. 13° 02' W.	6

12 ft. long. Shaft No. 6. 45.32 ft. deep with Drift 8 ft. 51' W. 15 ft. long and Drift to Disc Tunnel 20 ft. long. Shaft No. 7. 46.35 ft. deep with Drift to Shaft No. 6. Shaft No. 8. 57.30 ft. deep. Shaft No. 9. 20 ft. long. Shaft No. 10. 46.30 ft. Shaft No. 11. 46.40 ft.