

BEFORE THE INDIAN CLAIMS COMMISSION

THE HUALAPAI TRIBE OF THE HUALAPAI)	
RESERVATION, ARIZONA)	
)	
Petitioner,)	
)	
v.)	Docket No. 90
)	
THE UNITED STATES OF AMERICA,)	
)	
Defendant.)	

Decided: Dec 21 1966

Appearances:

Royal D. Marks, with whom were the law firm of Strasser, Spiegelberg, Fried, Frank & Kampelman; Arthur Lazarus, Jr.; and David E. Birenbaum, Attorneys for Petitioner

Howard G. Campbell, with whom was Mr. Assistant Attorney General Edwin L. Weisl, Jr., Attorneys for Defendant

OPINION OF THE COMMISSION

Holt, Associate Commissioner, delivered the opinion of the Commission.

This matter is now before the Commission for determination of the fair market value of lands which were taken by defendant from the petitioning Hualapai tribe. The date of such taking has been determined to have been January 4, 1883.

The area to be valued as of that date consists of 4,459,500 acres, and it is located in northwestern Arizona. In 1883 the Hualapai tract was located within Mohave and Yavapai Counties of the Arizona Territory.

By 1883 there were more than 60 small, white settlements within the tract. The Atlantic and Pacific Railroad Company was constructing its line through the tract. The line reached Kingman, Arizona, in the west central part of the tract on March 13, 1883, about two months after the valuation date. The Southern Pacific Railroad had traversed Arizona, south of the Hualapai tract, some three years prior to the valuation date. The tract was favorably located with respect to available rail transportation. Prior to the coming of the railroads, various toll roads, overland freight, stage, and mail lines had existed to contribute to the economic development of the area. Contemporaneous with the construction of the Atlantic and Pacific Railroad, the Western Union Telegraph Company built a telegraph line through the Hualapai tract.

The topography of the area was characterized by rugged, broken mountain ranges separating long, level valleys. The tract generally had poor soil and much of the area was covered with desert growth and thin growth of short-lived annual herbs and grasses. The annual rainfall varied from a low of seven inches to a high of 22 inches in the area around the Santa-Maria Mountains. Since water was not plentiful in the area, all available water sources were of particular importance. The winters were mild and the summers were warm.

As of January 4, 1883, the surface of the subject area had an overall highest and best use as grazing land. While there was some scattered farming in the area in 1883 it was not significant to our valuation. Likewise the timbered areas within the Hualapai tract did not contribute

any significant value to the area. We agree with petitioner's expert appraiser that the agricultural and timber assets should be merely considered as "plus factors."

Perhaps the most difficult facet of this case is presented in evaluating the mineral enhancement to the Hualapai tract. Of course the principal evidence of value in this regard is the opinion evidence of two recognized mineral experts, Mr. Roy P. Full for the petitioner and Dr. Arthur R. Still for the defendant. But these two experts have viewed this aspect of the case quite differently. Mr. Full valued the mineral lands at \$1,750,000.00 while Dr. Still valued them at \$654,974.00.

As we have set forth in our findings of fact, Mr. Full utilized two appraisal methods in reaching his ultimate conclusion. By his mine by mine appraisal Mr. Full reached a figure of \$1,920,500.00 while his annual production and income approach resulted in a valuation of \$1,670,000.00.

The mine by mine appraisal involved over 100 mines and known mineral areas. We have set forth in our finding of fact number 53 a summary of Mr. Full's mine by mine appraisal. It would not be practicable or, in our opinion, necessary to set forth a detailed recitation of the various factors and conclusions for each of over 100 separate mineral properties. The various factors considered by Mr. Full and carefully reviewed by us are included in Volume I of his report from pages 59 through 329.

A great percentage of the total valuation figure is derived from the values assigned the mines within the Wallapai District. That district

comprises four areas which together represent \$1,237,500.00 of Mr. Full's total valuation of \$1,920,500.00.

In his mine by mine appraisal Mr. Full has stated that, in general, he considered:

- a. Date of location of the individual claim;
- b. Size of the claim or extent of known mineralization;
- c. Interest in the property as expressed by sales or other reports;
- d. Extent of development of the mine by 1883;
- e. Amount and grade of production by 1883;
- f. Mineral composition and its effect on recovery and marketing;
- g. Future potential of the deposit, based on features known or recognized by 1883.

We agree that these factors would have been considered by a prospective buyer and seller of the subject area in 1883. We have examined the voluminous data assembled by Mr. Full and upon which he has relied in reaching his conclusions relating to the factors which he has outlined. Most of the material assembled by Mr. Full is in the form of newspaper articles. All of Volume II of his report (Pet. Ex. F-1) consists of excerpts from the Arizona Miner, The Mohave County Miner, and the Alta Arizona. And a portion of Volume III likewise is devoted to miscellaneous newspaper excerpts. There is also a collection of historical writings, technical journals, Government and State publications which were published many years after our 1883 valuation date and which are in most instances of little evidentiary value in considering the knowledge which would have been possessed by the 1883 hypothetical buyer and seller of the Hualapai tract.

In his mine by mine appraisal Mr. Full considered important factors to be the extent of the ore body, its grade and composition, and the production realized from the mine. But he recognized the difficulties in obtaining reliable estimates on the various mines from the contemporaneous material which he assembled. In discussing the Wallapai District Mr. Full wrote in his report:

Production estimates for the Wallapai District show a wide range of values, and the lack of completeness of most of the compilations precludes the acceptance of any one set of data. This is particularly true for the period prior to 1904, during which time no organized attempt was made to properly record or credit mine production.

* * *

Schrader, who was in the area from October 1906 to February 1907, was confronted with the lack of reliable data on production statistics for many of the properties. Even though he discussed over seventy properties in detail, he was indisposed to make a numerical estimate of production for more than thirty of the mines. (Pet. Ex. F-1, Vol. I, pp. 333, 338)

In his appraisal Mr. Full has given practically no consideration to the many recorded sales involving the mines which he has evaluated. In fact Mr. Full has testified that he used the sales data only to determine the extent of activity. As he testified

We have not used contemporary sales because we are attempting to establish fair market value. We do not feel that a sale of a fractional interest or even an entire interest in many cases to uniformed buyers represents fair market value, particularly when we are dealing with a large tract.

We do not feel that these small sales are representative of fair market value. Most of the transactions, I think, during these early periods, you can consider were not by well-informed people, one of the bases for establishing fair market value. They were by individuals who might have been optimistic, willing to speculate, but they were not well-informed.

I contend that transactions in mineral properties really is no value -- or no evidence of value of fair market value, and not by any measure an indication of the potential of the property. (Tr. 418, 419)

We do not agree that the recorded sales are valueless as an indication of market value. Certainly evidence of contemporaneous sales of the property involved in this case are relevant, and we have considered the sales data in reaching our conclusion of the fair market value of the Hualapai tract.

Mr. Full testified that the sale of a fractional or even an entire interest in a single mine would not be an indication of the fair market value of a large mineral area. But Mr. Full himself has valued the large mineral area by totaling his estimated value of each of the single mines. We believe the sales price of an individual mine is an important factor in considering the fair market value of that particular mine.

For example Mr. Full has valued the New London mine in the Cerbat area of the Wallapai District, at \$35,000.00. On pages 264 through 268 of his appraisal report he has set forth the material considered by him in reaching this conclusion. The recorded sales for the New London Mine were as follows:

<u>Date</u>	<u>Feet</u>	<u>Price</u>	<u>Price/foot</u>
3/29/77	250	\$1,000.00	\$4.00
4/9/77	75	250.00	3.33
1/4/83	325	500.00	1.20
1/4/83	500	250.00	.50 $\frac{1}{2}$
1/4/83	500	250.00	.50 $\frac{1}{2}$
	1650	\$2,250.00	\$1.36

Even at the highest price paid for an interest in the New London mine, the total indicated value for the entire 1500 feet would only have been \$6000.00.

The evidence cited by Mr. Full to support his \$35,000.00 figure is as follows:

1. Weekly Arizona Miner, Dec. 12, 1873
2. Weekly Arizona Miner, Feb. 18, 1876
3. Alta Arizona, Dec. 31, 1881
4. Alta Arizona, Jan. 27, 1883
5. Mohave County Miner, May 6, 1883
6. Mohave County Miner, June 3, 1883
7. Mohave County Miner, July 22, 1883
8. Mohave County Miner, July 27, 1884
9. Director of the Mint Report, 1884
10. U. S. Geological Survey, Bulletin 397, F. C. Schrader, 1909
11. Geological Survey Bulletin 978-E, McClelland G. Dings, 1951

1/ Both of these sales were of the Lilly of the Valley which was another name used for the New London claim.

The first eight references are to newspaper articles. The articles generally reported the ore to be of value for its lead content, with some silver. In 1876 it was reported to average \$45.00 per ton; in 1881 it was valued at \$50.00 per ton; and in 1883 it was reported that two samples assayed \$55.00 and \$68.00; and another report in 1883 stated the New London mine could furnish \$40.00 to \$60.00 per ton ore in unlimited quantities.

The articles prior to the valuation date reported the main shaft extending to over 100 feet in 1876, although another article in December, 1881, stated the deepest shaft was 95 feet and the production was estimated at \$9,000.00.

The article published in the Alta Arizona on January 27, 1883, only about three weeks after the valuation date in question, reported the main shaft to be 90 feet deep.

The evidence cited by Mr. Full in support of his \$35,000.00 valuation consists almost entirely of newspaper articles. He does cite, in addition, the Director of the Mint Report for 1884; the Schrader report of 1909; and Dings report of 1951 in U. S. Geological Survey bulletions. However, these three reports contain little data to support a valuation as of 1883. Schrader reported that the mine "was worked during the middle eighties, at which period it produced much good ore. It was closed about 1893 . . ." (Pet. Ex. F-7, p. 105) Schrader did not give any production figures for this mine. The newspapers articles reported on the mine in rather typically optimistic terms. The two articles quoted at length by Mr. Full ended as follows:

"There is little doubt that this claim will ere long be one of the largest bullion producing mines in Arizona" (Alta Arizona, Dec. 31, 1881).

"The energetic owners of this fine property are in a fair way to make fortunes and that they deserve it richly no one will gainsay" (Mohave County Miner, July 27, 1884).

While we do believe that the information contained in contemporary newspaper articles may be considered in evaluating the mineral properties in this case, we also believe that it should be recognized that many of them were written to help promote the area and the local mineral properties. It is possible to find articles written in the most glowing terms concerning virtually every mine in the area. Very seldom is there any unfavorable comment on a local mineral property. The articles are generally not written in an analytical manner but include every rumor and hearsay comment concerning the mines. It is impossible to know just where the information being reported has been obtained, but often it preceded by such phrases as "it is reported that," "we understand that," and "we have heard that." Many of the articles are based on correspondence sent to the paper, obviously raising a question whether it is being sent to help promote the mine owners own interests. In fact many articles were reports sent to the paper by the mine operators themselves.

With respect to the New London mine we do not believe the newspaper articles, even accepting them at face value, support a conclusion that the mine was worth \$35,000.00 on January 4, 1883. We would accord the sales data some weight in determining the value of this property. At Mr. Full's \$35,000.00 valuation we have a per foot value of over

\$23.00. This mine never sold at such a figure. The highest price per foot was \$4.00. And the average price per foot for the five listed sales was \$1.36 per foot.

The Juno Mine, consisting of 1000 feet, was valued by Mr. Full at \$30,000.00, an average of \$30.00 a foot. He noted two sales of the Juno involving the entire 1000 feet. On April 30, 1877, the Juno was sold for \$500.00 and on May 28, 1881, it was sold for \$1000.00.

The Keystone Mine was valued by Mr. Full at \$50,000.00. There were eleven single lode sales recorded for this mine as follows:

<u>Date</u>	<u>Interest conveyed</u>	<u>Price</u>	<u>Average/foot</u>
8/14/71	200 feet	\$100.00	\$0.50
12/2/71	240 "	4,000.00	16.67
5/4/72	240 "	5,000.00	20.83
11/2/72	240 "	8,000.00	33.33
11/23/72	240 "	8,000.00	33.33
3/30/74	240 "	100.00	0.42
10/6/77	900 "	153.26	0.17
1/8/78	960 "	2,034.77	2.12
1/17/78	192 "	3,000.00	16.15
1/17/78	240 "	4,000.00	16.67
2/15/78	<u>520 "</u>	<u>1,500.00</u>	<u>2.88</u>
	4,212	\$35,888.03	\$8.28

There were two multiple sales involving 1500 feet each in the Keystone No. 1 and No. 2 mines. In May, 1879, the consideration was \$1,000.00 and in August, 1879, the consideration was \$15,000.00. On May 30, 1881, a 5/108th interest in the Keystone No. 1 and 2 mines together with the Itica Mine, Pioneer millsite and Mineral Park (5 stamp) mill sold for \$2,500.00. We note that the Keystone brought the highest prices in 1872, some eleven years prior to our valuation date. The newspaper articles

cited by Mr. Full indicate that most of this mines production occurred in the 1870's. The Weekly Arizona Miner reported that work on the mine was suspended in 1880 and in 1882 it was reported that the Keystone mine had been held in litigation with no work having been done. While it was reported to be reopened in 1883, Mr. Full noted that it was either short lived or unsuccessful for in 1884 there were reports of a new effort to reopen the property. We believe that the sales data in this instance comes closer to supporting Mr. Full's appraisal. Apparently there were some legal problems which could have depressed the sales prices recorded in the late 1870's. But we do not believe that the history of this mine, including all of the sales data, supports an 1883 fair market value as great as \$50,000.00.

The Oro Plata Mine, containing 600 feet on the lode, was valued by Mr. Full at \$60,000.00, an average of \$100.00 per foot. The following single lode sales were reported:

<u>Date</u>	<u>Interest conveyed</u>	<u>Price</u>	<u>Average/foot</u>
9/21/75	200 feet	\$125.00	\$0.625
12/9/79	300 "	135.51	0.45
2/7/80	600 "	200.00	0.33
3/31/80	300 "	200.00	0.67
7/26/80	150 "	250.00	1.67
2/17/83	<u>150 "</u>	<u>200.00</u>	<u>1.33</u>
	1,700	\$1,110.51	\$0.65

The Lone Star Mine, containing 1000 feet, was valued by Mr. Full at \$50,000.00, an average of \$50.00 per foot. The entire Lone Star Mine (1000 feet) was sold on May 16, 1881, with other property, for only \$17,333.00. The other property included in the sale was:

1,000 ft. -- Golden Star
500 ft. -- Mariposa
500 ft. -- Ora Plata (valued by
Mr. Full at \$60,000.00
for the full 600 feet)
3/4 interest in Lone Star Millsite

Based on the sales data involving the very mining properties being evaluated by Mr. Full we do not believe there was as strong a market for the mineral properties as Mr. Full has portrayed. In general we believe the mines appraised by him were selling in the market place in 1883 at lower prices than his appraisals. We note that petitioner, in its proposed findings of fact, has stated "On the premise that contemporaneous sales are only one, and not the only, factor indicating market value . . ." (Petitioner's proposed findings and brief, p. 128). But how has petitioner's expert used this "contemporaneous sales factor" in his appraisal? He has not used it as any indication of market value -- but rather for the limited and rather nebulous purpose of "indicating interest in the property." Continuing in petitioner's proposed findings it is conceded that Mr. Full did attribute a higher value to some mines than the available records indicate had been paid for the property. But it is also pointed out that in many other instances Mr. Full assigned no value to a mineral property which sold before 1883 for thousands of dollars. We recognize that this is true, and this also, we believe, is a factor to be considered. But we cannot accept Mr. Full's reason for not considering sales of the identical mines which he was appraising. Many of the sales do reflect true, bona fide market place transactions and as such are important factors in a fair market value appraisal. And those sales indicate to

us a lower value than those reached by petitioner's expert in his mine by mine appraisal.

Petitioner has urged that we ignore the sales of mining properties because the parties involved were not informed mineralogists. It is similar to defendant's argument with respect to use of the railroad sales by petitioner in its surface valuation. As we shall discuss later in this opinion, defendant has objected to the use of certain sales because they were not realistic. Defendant's expert felt that the buyers were un-informed--not local cattlemen--and were too "free with their money." In the mineral appraisal it is petitioner that wants the sales data rejected. Mr. Full considers that more knowledgeable sellers should have obtained more for their mines. A conclusion of fair market value requires a determination of that price which a well informed buyer and seller would have reached in a fair, market place transaction for the property involved. And we are reluctant to substitute for available market place transactions the opinion of a mineral expert, some 80 years later, that the value of the mines was greater than that reached by the parties who actually dealt with them at the time in question. In general we do not believe that there is any evidence that the transactions included in the sales data were "forced."^{2/}

Quite frankly we would not consider that the authors of the numerous newspaper articles were any more "well informed" than the miners and others

^{2/} We have noted some sheriff's sales and the like which would raise some question as to the validity of the consideration as evidence of market value. But there were not many of such transactions.

engaged in buying and selling the various mineral properties. In fact when Mr. Full was questioned on this aspect, he testified that the newspaper writers were relatively uninformed or about on a par with the miners concerning mineralogy. We would be more inclined to rely on recorded transactions concerning a particular mine than on most of the newspaper articles written about the mine. An examination of the contemporaneous articles in the local newspapers indicates, in our view, an obvious intent to say the best possible for each mine. At least the actual sales of the mines involves a market place transaction. To put it in common parlance this is where "money talks". And the value placed upon a particular mine by those who bought and sold the mine at or about the valuation date must be considered as some evidence of that mine's market value.

There is one other factor to be weighed in a consideration of the sales, which often involved fractional interests or small groups of mining properties. We agree with petitioner's argument that in many instances the mines were operated by individuals and small groups without adequate financial backing, technical knowledge, or long range economic objectives. There was, of course, duplication of effort and inefficient practices which limited profits and must have been reflected in the sales. A purchaser of the entire Hualapai tract would have been able to realize, through common ownership of the mineral resources, a more organized, efficient and profitable development of the mines. And this factor is a definite "plus" item which we have considered in evaluating the mineralized areas of the Hualapai tract.

Mr. Full's second appraisal method involved an annual production and income computation which he felt could have been attained from production by a common owner over a ten-year period. Mr. Full has estimated an annual production figure for each of the mining districts involved. As he has noted himself any estimate of production as of the valuation date is extremely difficult to determine. And the various sets of data available on production are subject to quite wide variations, since no early compilation of the data is complete. In any event Mr. Full has totaled his district by district estimate for the Hualapai Tract and arrived at an annual production figure of \$1,670,000.00.

By applying a royalty figure of 25% to this production figure of \$1,670,000.00 Mr. Full arrived at an annual net return figure of \$417,500.00. To arrive at a valuation of the mineral deposits which would have produced an annual net profit of \$417,500.00 for a projected 10 year period, Mr. Full has used a compound interest factor for 20%. This factor (4.1925) times \$417,500.00 yielded his \$1,750,368.75 figure. In Mr. Full's method the 20% figure is intended to cover the risks and hazards associated with development of the mines.

We note that in utilizing a compound interest factor Mr. Full must assume a reinvestment of the returned capital each year at 20%. If, however, the Hoskold mine valuation formula had been used, the annual reinvestment of the redeemed capital would have been a more conservative figure. As quoted by Mr. Full in his report, Hoskold stated "In the case of unopened mines it has been my practice in deducing the present

value deferred, to allow 20 per cent to a present purchaser, and redeem capital at 3 per cent per annum; which I consider in a general way is a safe mode of dealing with any mine with average prospects." (Pet. Ex. No. F-1, p. 357, citing Parks, Roland D., Examination and Valuation of Mineral Property, 3rd Edition, 1949, pp. 222-224). If the Hoskold premise were used in this case and a 20% return allowed with redemption of capital at 3%, the factor would be 3.4815, which times \$417,500.00 would produce a valuation of \$1,453,526.25. This is some \$296,842.50 less than Mr. Full's computation. It can also be noted that Hoskold continued to state that while 20% was proper for an average prospect, where a mine is less certain he had allowed a 25% figure--and where greater risks were involved, such as in foreign mines, a rate of 25 to 35 per cent. In this case the Hoskold formula allowing a 25% return, redemption of capital at 3%, would require a factor of 2.9653 times \$417,500.00 -- or a total valuation of \$1,238,012.75.

In discussing mine valuation by use of interest rates Roland D. Parks makes this observation concerning the use of identical speculative and safe rates of interest--which is what Mr. Full has done in selecting his factor from the compound interest table:

If all hazards are provided for by discounts and not included in the interest rate on the investment, there are strong arguments for using the same rate on the sinking fund as on the investment. In practice, a sinking fund is rarely set aside and invested at a safe rate of interest; the hypothetical fund is reinvested, generally in the same business, or is returned to stockholders as return of capital. Parks, Examination and Valuation of Mineral Property, pp. 225, 226.

But in this case Mr. Full has not provided for the hazards by way of discount. The hazards are included in the interest rates. We would consider that in this case any annuity type calculation would more properly be calculated at a 20 to 25% speculative or hazard interest rate and a 3% or 4% sinking fund rate.

While Mr. Full has stated that his appraisal did not take into consideration the sales involving the mines within the Hualapai tract,^{3/} he has included in his report a digest of deed records covering the period through July, 1883 (Pet. Ex. No. F-1, Vol. IV). Mr. Full has not combined the sales data statistically, except for totals every six months. We have taken his six month totals for the Wallapai District (by far the most important district in the area) and combined them to indicate the range and overall averages for the sales involved. Mr. Full's sales data is broken down for single lode sales and those sales involving interests in two or more lodes. The data as set forth in our finding of fact number 59 indicated an average price per foot for the single lode sales of \$1.26. For the multiple lode sales the

^{3/} Sales were not used as such, although Mr. Full said he considered them as an indication of interest in the property.

average was \$1.82.^{4/} On a basis of a full 1500 feet per claim, this would indicate an overall average claim price of \$1,890.00 to \$2,730.00. Mr. Full's mine by mine evaluation of the Wallapai district totaled \$1,237,500.00. In this mine by mine evaluation Mr. Full listed 66 specific mining properties and under an "other properties" classification he mentioned a total of 42 other mines or groups of mining claims. This represented a total of 108 properties valued at \$1,237,500.00 or an average per claim of about \$11,468.00.

Defendant's expert, Dr. Still, considered deed records and his sales data for some 276 sales averaged \$1,855.00 per claim. Applying certain factors, which we shall discuss later, Dr. Still arrived at an "indicated over-all average" of \$2,178.00 per claim.

Defendant's mineral expert, Dr. Still, based his appraisal on an analysis of sales data which covered a period from June 1, 1880, to December 31, 1883. Dr. Still found that there was no available evidence upon which to base any determination of ore reserves for the mineralized areas within the Hualapai tract. Therefore it was not possible to conduct a mineral appraisal by the "standard procedure," that is the Hoskold formula or a similar annuity type formula.

Dr. Still considered that there was sufficient sales data available

^{4/} This figure is after the elimination of one sale involving 9,000 feet and a 5 acre millsite for a listed consideration of \$2,499,000.00. This transaction is clearly one which should not properly be included in a sales analysis. Quite probably it involves stock consideration and not dollars. The sale was by James Blakely and wife to the Jackson Bonanza Gold and Silver Mining Company. Two months earlier (May 10, 1880) a recorded deed reflects that William Calver transferred the exact same properties to James Blakely, Jr. for a stated consideration of \$10,000.00.

which could be analyzed and applied to the number of valid, productive claims which were in existence on the valuation date. The sales analysis covering a 3½ year period included 276 "priced" transactions, that is sales in which an apparent true dollar consideration was listed. Those deeds which listed one dollar or five dollars and other valuable consideration were considered "unpriced" transactions. The 276 priced transactions involved 266.59 claims for an average per claim consideration of \$1,855.00.

Then Dr. Still without any apparent basis, other than his own belief, assumed that the 93 "unpriced" transactions involved the more "sophisticated buyers." These buyers, he felt, would not want the general public to know what prices they were paying. And so he assumed the unpriced transactions "would be apt to average a higher consideration than the priced transactions" (Def. Ex. No. S-46, p. 43). While recognizing that it was impossible to determine just how much higher this could be, Dr. Still stated "it appears logical to us to assume that, on the average, they may have been in the order of 50% higher" (Def. Ex. No. S-46, p. 43). In the first place we can see no sound basis for Dr. Still's premise that sophisticated buyers were those involved in "unpriced" transactions or that those transactions were "apt" to have been at higher consideration figures than the prices reflected in the "priced" transactions. And even if we were to accept this premise of Dr. Still, we certainly cannot accept the factually unsupported assumption that all unpriced transactions shall be added to the analysis at 150% the average consideration of the "priced" transactions.

Those deed records presented by Dr. Still in which it was possible to obtain an apparently valid consideration averaged \$1855.00 a claim (or \$89.79 per acre on an assumed full 20.66 acres per claim). We would accept that figure for what it might be worth. But we cannot accept the adjustment based on pure speculation by which Dr. Still increased his average to \$2,178.00 per claim or \$105.42 an acre.

In any event Dr. Still continued in his valuation to apply his \$105.42 per acre figure to a total acreage multiplier. His study of the Mohave County records revealed a total of 2,467 mining claims recorded within the Hualapai tract by January 4, 1883. At an assumed full 20.66 acres per claim, this represented 50,968 acres. Dr. Still discounted this figure by 87.81% to account for that portion of the area which would have had little or no value. This discount figure was computed by comparing the number of producing mines in the Wallapai district (162) to the total recorded number of mining claims in that district, as of January 4, 1883 (1,329). This ratio of 162 to 1329 or 12.19% indicated, in Dr. Still's opinion, that proportion of the area covered by mineral claims which would have been productive and, therefore, have a fair market value at the indicated average selling price of mineral acreage. In summary Dr. Still's computation was:

$$50,968 \text{ acres} \times 12.19\% \times \$105.42/\text{acre} = \$654,974.00$$

By this method Dr. Still has excluded almost 90% of the acreage which was covered by mining claims on the valuation date. While we do believe that much of this excluded acreage would have had little value for mineral production, we think it had some value, and we would not exclude it entirely in reaching a fair market value for the Hualapai mineral lands.

Petitioner's expert witness on value, Donald D. Myers, presented two appraisal methods which he used to arrive at a fair market value for the entire area. His principal method was a market data analysis while his secondary method involved an income or land residual study.

A key element to Mr. Myers' valuation involved computations of cattle carrying capacities for the lands involved. The grazing capacity figures which Mr. Myers presented were obtained by him from state and federal agency ratings made in modern times. A majority of the Hualapai tract lands are used today for cattle grazing under deeds from the State of Arizona and from the federal government. All such state and federally leased lands have rated carrying capacities, which, for purposes of range management, establish the maximum number of cattle which a rancher may legally graze upon the land. Mr. Myers' computations involved nearly 80% of all the townships involved. Where state or federal leases are not involved (as for example on privately held land) no cattle carrying capacity rating is made. But Mr. Myers has interpolated for such areas to compute his figures for the entire tract.

The evidence establishes, in Mr. Myers' opinion, that the present day capacity does not exceed that on the valuation date. And, in fact, there is evidence that the ground cover on the valuation date was more abundant.

We shall pass for now the question of the validity of Mr. Myers' assumption that the cattle carrying ratings would be no higher today and consider his application of the ratings to his determination of fair market value. As we have outlined in our finding of fact number 38, Mr. Myers computed the cattle carrying capacity of the entire Hualapai tract

by totaling the entire acreage in each of the cattle carrying capacity ratings from a low rating of 3 per section through a high rating of 12 per section. The total figure for the Hualapai tract was 41,084 (although, as we have noted, Mr. Myers apparently transposed his figures and reached a sum of 41,804).

Next Mr. Myers considered seven transactions in the general area involving relatively large tracts of grazing lands. The sales were made during a period from 1884 through January 1890 (from one to seven years after our valuation date) and involved acreages from 23,040 acres to 1,058,560 acres. The sales were all in Arizona and one was actually within the Hualapai tract. The sales were by the Atlantic and Pacific Railroad of lands it had been granted in checkerboard pattern, i.e., the grant was of alternate sections of land in strips on each side of the railroad's right of way.

Mr. Myers recognized that there was no available sale which was directly comparable to the Hualapai tract. Therefore, all sales had to be adjusted. Rather than apply a subjective differential figure to so adjust the sales, Mr. Myers reasoned that the cattle carrying capacity ratings could provide a meaningful and convenient basis upon which to compare the sales tracts with the subject area. All of the sales involved parcels which had access to the railroads and were, therefore, comparable to the Hualapai tract in that regard. The seven sales did occur after our valuation date which is a factor to be considered. But all of those many characteristics of the land which relate to its value as grazing land are directly reflected in the ratings assigned for cattle carrying capacity.

The elements which contribute to grazing land value are relevant to a cattleman only to the extent that they contribute to the number of cattle which could be fed upon the land. Therefore, Mr. Myers considered, we need not follow an intricate analysis of soil types, ground cover, elevation, etc., since all of these elements are more scientifically and objectively reflected in the cattle carrying capacity ratings. Mr. Myers' analysis certainly has an appeal for it removes much of the subjective approach involved in historical market value appraisals, which usually involve a number of rather arbitrary and speculative adjustments and computations.

To apply cattle carrying capacity ratings for the purpose of adjusting the sales prices of the comparable tracts, Mr. Myers used the same source data and the same process to compute cattle carrying capacity ratings for each of the seven railroad land sales. All of those seven sales had higher average cattle carrying capacity ratings than the average Hualapai tract rating. The average rating for all the sales was 7.36 head per section while the average rating for the Hualapai tract was 5.9. Therefore, the value of the Hualapai tract as grazing land was proportionately less valuable than the railroad land sales.

To relate the railroad sales to a value for the Hualapai tract Mr. Myers converted the sales prices for the railroad lands to a "price per animal unit" and then applied that "animal unit price" to the Hualapai tract total cattle carrying capacity. Mathematically Mr. Myers computed \$52.16 as the price per animal unit for the seven comparable

railroad land sales which he multiplied by 41,500 (the cattle carrying capacity of the entire Hualapai tract) to reach a figure of \$2,164,640.00. This figure, or an average per acre value of about \$1.485, represented Mr. Myers' conclusion as to the fair market value of the surface acreage of the Hualapai tract based on the comparable sales of the railroad lands.

We shall stop at this point in Mr. Myers' appraisal to consider certain aspects of the cattle carrying capacity ratings and the comparability of the railroad sales with the Hualapai tract. The first question to be raised concerns the validity of Mr. Myers' assumption that the "modern" cattle carrying capacity rating which he utilized would be no higher than such ratings if they had been made at our valuation date. Defendant has raised an objection to Mr. Myers' assumption. While defendant states "it is believed the cattle carrying capacity is greater today than it was in 1883" (Def. Brief, p. 35) no evidence has been adduced which can satisfactorily support defendant's "belief". Defendant refers to the modern scientific feeding methods and the trucking, piping, and drilling used to supply water. Defendant has concluded that the only possible effect of these factors is to improve the range capacity. However, it is also true that portions of the Arizona range lands were overgrazed and improperly handled resulting in a depletion of the ground cover. Also there has been a drop in the water table since the valuation date. In considering the ratings which Mr. Myers has used we must note that defendant's own expert, Dr. Winter, testified that the western portion of the Hualapai tract contained the least desirable grazing land but that, excluding the more inaccessible areas, it would generally

carry five to six cow units a section. Such an opinion would seem to support Mr. Myers' use of a 3 to 4 head per section rating for the same area. And while defendant at one time sought to introduce evidence "with which to test the accuracy" of Mr. Myers' figures and a hearing was scheduled to consider such evidence, the offer was withdrawn and no evidence to contradict Mr. Myers' cattle carrying capacity computations has ever been produced.

But even if we were to assume that there has been some increase in the cattle carrying capacity of the Hualapai tract, we must also assume that a similar increase has occurred within the seven comparable sales tracts. And since we are dealing with an equation in arriving at the market value comparison, the required deductions in cattle carrying capacity on both sides of the equation would cancel each other and leave the final conclusion unaffected.

Defendant has also raised several objections to Mr. Myers' use of the seven railroad sales. The statement is made that the sales are not realistic -- first because petitioner failed to put into the record evidence concerning the fate of the buyers "who were so free with their money." Defendant has then pointed out that the Aztec Land and Cattle Co. (the purchaser in sale number 2 of 1,058,560 acres at a consideration of \$0.50 per acre) went into bankruptcy in 1890. We think the law is quite clear that such subsequent events do not have the slightest bearing on fair market value. A determination of fair market value requires consideration of what a purchaser in fair market conditions would in fact have given for the land and not what it might appear at some later date

he would have been wise to give. The eventual business success or failure of the purchasers is irrelevant to our determination of fair market value. But in any event defendant's own evidence indicates that the Aztec Company went into "temporary bankruptcy about 1900, apparently the victim of wholesale cattle rustling" (Def. Ex. No. W-12, p. 47) -- and not as defendant intimates, because of an improvident land purchase. Defendant also attacks this Aztec sale because it was not at arms length in that the stockholders of the Aztec Company and the Atlantic and Pacific Railroad were the same. In this regard defendant's same exhibit records that the Aztec Company "paid such a low price because the two parent railroads and the Seligmans forced the Atlantic and Pacific to raise the money due them" (Def. Ex. No. W-12, p. 46). We agree that the transaction does not appear to have been at arms length -- but it was the seller that was "forced" to sell at what was considered a "low price." It might be assumed that the price was depressed, in which event consideration of this sale would be to the petitioner's disadvantage. It is true, as defendant has indicated, that Dr. Perrion, the purchaser in sale number 5 (involving 176,700 acres at a consideration of \$0.70 per acre), selected his acreage in an irregularly shaped tract which included the best land in the region and omitted the worst. However, we do not consider that his subsequent complaints and litigation about the purchase have any material bearing on the original sale. And defendant has failed to also mention the Perrion sale reserved for 15 years the right of the Atlantic and Pacific Railroad to cut down and remove any and all trees and timber on the land and all springs and water supplies being used by the railroad were also excepted.

The most serious difficulty in our opinion, in comparing the seven railroad sales, lies in the fact that they all involved "checkerboard" land. The railroad grant included the odd numbered sections extending twenty miles on each side of the right of way. And it was these odd numbered sections which were sold in each of the seven transactions used by Mr. Myers in his analysis. So while we are concerned with evaluating a solid tract of some four and a half million acres we are comparing it with tracts of much smaller acreage which were not solid.

An important aspect of cattle raising during the early history of the United States was the "free range" privilege. Under this system which pertained at the time of this valuation, any person had full liberty to graze his stock upon the public domain. This privilege was discussed at length in Buford v. Houtz, 133 U.S. 320 (1890). In that case the Supreme Court stated:

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We are of the opinion that there is an implied license, growing out of the custom of nearly a hundred years, that the public lands of the United States, especially those in which the native grasses are adapted to the growth and fattening of domestic animals, shall be free to the people who seek to use them, where they are left open and uninclosed, and no act of government forbids this use. For many years past a very large proportion of the beef which has been used by the people of the United States is the meat of cattle thus raised upon the public lands without charge, without let or hindrance or obstruction.

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Of course the instances became numerous in which persons purchasing land from the United States put only a small part of it in cultivation and permitted the balance to remain uninclosed and in no way separated from the lands owned by the United States. All the neighbors who had settled near one of these prairies or on it, and all the people who had cattle that they wished to graze upon the public lands, permitted

them to run at large over the whole region, fattening upon the public lands of the United States and upon the unenclosed lands of the private individual without let or hindrance . . . Everybody used the open uninclosed country which produced nutritious grasses as a public common on which their horses, cattle, hogs and sheep could run and graze. (Buford, supra, at pp. 326, 327)

Obviously this privilege was an important aspect of the cattle raising business conducted by the purchasers of the checkerboard lands. One of petitioner's excerpts discusses this matter as follows:

Title to water was secured under this law pre-emption however, the free use of the public domain characterized this early period. Relatively little acreage was claimed under either the Homestead or Desert Land Acts, but almost 8,500,000 acres of the Territory's finest grazing land were granted as subsidy to the railroad. Much of this eventually passed into the hands of the big companies, one in particular, the Aztec Land and Cattle Company, securing control of a range 90 miles long 40 miles wide along the right of way of the Atlantic & Pacific between Holbrook and Flagstaff. This outfit, which was running 60,000 head in 1888, shipped 28 cars of 2-year olds to Kansas in 1889. (Pet. Ex. No. CB-12, pp. 52, 53)

Thus it would appear that the Aztec Land and Cattle Company by its purchase of 1,058,560 acres acquired control, by virtue of the checkerboard, of a range 90 miles by 40 miles (an area of some 2,304,000 acres), upon which it grazed some 60,000 head. The actual cattle carrying capacity as computed by Mr. Myers for the Aztec purchase was 11,578 head (average for sale 2 was 7 head per section x 1654 square miles = 11,578).

It is quite apparent that the ability to exercise considerable control over approximately twice the acreage purchased and to graze a herd on about twice the acreage actually owned had a bearing on the sale of checkerboard land. This practice is also referred to in the Arid Domain by William S. Greever, who wrote "The Aztec Aztec Land and Cattle Company", promptly upon signing the sales agreement with the railroad, shipped in

about 40,000 head of cattle and established a ranch generally known as the Hashknife outfit. It encountered many difficulties with trespassing stockmen who formerly had occupied the range unmolested and resented the company's purchase of the odd-numbered sections within their traditional range. It was certainly at fault if the charge is true that it threatened death to anybody claiming even-numbered sections of government land in its area" (Def. Ex. No. W-12, p. 47).

It is defendant's contention, therefore, that the practical effect of the checkerboard pattern was that one who bought sections from the railroad got the use of the intervening sections of the public domain, as a bonus. We agree that the purchaser did get something in addition to the land which he bought, but we do not believe it was twice what he bought. There was, of course, another side to the coin. The checkerboard pattern did, as was indicated in the Arid Domain, create difficulties for the cattlemen. There were other "neighboring" ranchers who also exerted their rights to the public domain. It was necessary in many instances to fight for this free grazing privilege, and history has recorded the bloody range wars that took place. So there would have been some advantages to be secured in a purchase of a solid block of grazing land. But on the balance we believe a purchaser in 1883 would have paid a higher average per acre price for checkerboarded range land than he would have for a solid block of range land.

And we believe, too, that a sale of the 4,459,500 acres of grazing land involved in the Hualapai tract would bring a smaller average per acre price than the average of the smaller tracts involved in the seven railroad grant sales.

Mr. Myers also considered other grazing land sales in Arizona, Utah and Nevada. He found them to be less direct evidence of market value. We would agree that those sales were of little value in determining the Hualapai tract's fair market value. We have in our finding of fact number 42 set forth in summary Mr. Myers' income analysis computations. We do not consider this series of mathematical computations to be of much assistance in this case. As we have already stated the comparable sales and cattle carrying capacity rating comparison represents, in our thinking, Mr. Myers' most valid approach to the valuation of the subject area. The income analysis involves the rather arbitrary selection of a number of factors to arrive at the "total net or residual income." Obviously,, even a relatively slight variation of some of the important multiples will rather drastically alter the end result. There is just too much speculation involved. It represents the rather arbitrary subjective approach which the market data approach sought to avoid.

Mr. Myers also assigned a separate additional valuation of \$150,000.00 for town lots within the Hualapai tract. He reasoned that there would be within the Hualapai tract a certain number of town settlements which would therefore have lots with a higher and better use than pasture. His computation was made on a basis that there was a valuation date population of 1000 people who would have been located in six 20 acre towns. And he concluded from an analysis of town lot sales that the unit value of the town lots would be \$0.03 per square foot. This produced his value of \$150,000.00 for 120 acres of town lots -- a rather fancy figure of \$1250.00 per acre.

We consider that this valuation is rather speculative and arbitrary. We can perform some computations ourselves on the same basic assumption used by Mr. Myers. We have noted that Mr. Myers applied all of the total consideration sums in his 7 railroad sales to the cattle carrying capacity totals to arrive at a \$52.16 "animal unit price." But if a prospective buyer of the Hualapai tract in 1883 would have valued 120 acres of town lots at \$150,000.00, then we may assume the buyers of the 1,513,168 acres involved in the 7 railroad sales similarly paid part of the \$909,242.00 total consideration for town lots in those areas. Using the same proportions for town lots,^{5/} the 7 railroad sales would have involved about one-third of the Hualapai tract town lots or 40 acres of town lots. This at a figure of \$1250.00 per acre (or \$0.03 per square foot) would total \$50,000.00. This figure should have then been subtracted from the total consideration before computing an "animal unit price." Thus the consideration total of \$909,242.00 - \$50,000.00 = \$859,242.00 which in Mr. Myers' appraisal represented the sum paid for land which carried 17,429 head. This would then produce an "animal unit price" of about \$49.30, which figure times the Hualapai tract cattle capacity of 41,500 used by Mr. Myers would result in a valuation figure of \$2,045,950.00, some \$119,050.00 less than the Hualapai tract value reached by Mr. Myers in his cattle carrying capacity computation.

^{5/} Actually it might be argued that the 7 railroad sales occurring from 1 to 7 years after our valuation date and located in more populous areas would have required proportionately more town lots.

In any event we do not believe that the evidence supports an additional \$150,000.00 for town lots. We have considered that this element represents another plus factor in the overall valuation.

As we have summarized in our finding of fact number 44, Mr. Myers considered his various computations, as set forth, and concluded that the fair market value of the Hualapai tract's surface resources was \$2,400,000.00 or an average per acre value of \$0.54.

Defendant's expert witness on value, Mr. William S. Winter, based his opinion of the fair market value of the tract on a study of sales. We have set forth in our finding of fact number 45 the various categories of sales relied upon. The most important transactions, in Mr. Winter's opinion, were sales numbered four and five. Sale four was of the Tierra Amarilla Grant involving 580,000 acres sold in 1883 for a consideration of approximately \$0.17 per acre. Mr. Winter considered this sale, in northern New Mexico and southern Colorado, to have involved much better grazing land than any portion of the Hualapai tract. Other than Mr. Winter's subjective observation of the relative value of the tracts as grazing land we do not find that defendant has presented any evidence to substantiate a conclusion that the Tierra Amarilla Grant was in fact much better grazing land than any portion of the subject area. In fact, when questioned on this point, Mr. Winter testified "I don't have any evidence except my observations, sir." (Tr. 865).

Mr. Winter's sale numbered 5 (listed in our finding 45 as sale number 6) involved 170,000 acres in the Texas panhandle sold in 1883 for a consideration of \$0.20 per acre. Mr. Winter also considered that

this sale involved better grazing land than that in the Hualapai tract. Again, however, the only basis for this conclusion is Mr. Winter's personal observation. The only evidence presented by defendant concerning this sale was an excerpt from a biography of Charles Goodnight by J. Evetts Haley in which Mr. Goodnight was quoted as saying "I bought land anywhere and everywhere I could get it, provided I could get it right. I paid different prices for it. Some land cost me twenty cents per acre, some twenty-five, some thirty, and some thirty-five cents per acre. The largest amount I ever bought at one time was one hundred and seventy thousand acres in the Tule country at twenty cents per acre, which necessitated the formation of the Tule Ranch." (Def. Ex. No. W-16, p. 304). We do not have any deed record of the sale, any information concerning its terms or even any identity of the seller.

There were a number of Baca Float No. 5 transactions which Mr. Winter also considered. Two of the transactions involved 99,289 acres at recorded considerations of \$0.27½ per acre. The Baca Float No. 5 was located within the exterior bounds of the Hualapai tract. However, there are certain aspects of the sales history of the Baca Float No. 5 which raise questions concerning the transactions. But the two sales cited by Mr. Winter do deserve some consideration in a study of sales data.

Mr. Winter in his ultimate conclusion as to the fair market value of the Hualapai tract noted that Dr. Still had appraised the mineralized area at \$654,974.00 (or as Mr. Winter stated 12½¢ per acre. Actually Dr. Still's appraisal would have amounted to 14.7¢ per acre). He considered the mineral report to be factual and supportable. However, without

reaching any separate figures for surface and subsurface values, he concluded that the Hualapai tract had a fair market value on January 4, 1883, of \$1,114,875.00 or an average per acre value of \$0.25.

It would appear that Mr. Winter has selectively used lower priced comparable sales, excluding those sales at higher considerations, in arriving at his valuation. We have concluded that his valuation figure of \$654,974.00 for the entire Hualapai tract is too low.

From all that we have said concerning the various valuation approaches included in this case it may now appear that we are quite dissatisfied with the appraisals which have been presented. Such is not the case. We consider that the experts have been of great assistance in presenting this case. They have diligently prepared most comprehensive reports, and the supporting data has, in our view, been complete. We have attempted to set forth at some length our reasons for reaching our ultimate conclusion of value. And since we have not followed any one valuation opinion we have attempted to explain why. We have not sought to be overly critical--only to detail our reasons.

We have carefully weighed all of the evidence of record including the reports and valuation conclusions of the experts. In summary we find that the Hualapai tract of almost $4\frac{1}{2}$ million acres represented a relatively vast, arid tract comprised of rugged, broken mountains separating long, level valleys. The ground was sparsely covered with annual herbs and grasses with desert shrub. Water was not plentiful, and its sources were of particular importance. The highest and best use for all of the surface area was as grazing land. The area was favorably located

with respect to rail transportation. On the valuation date the cattle raising industry was strong, and there was a growing interest in land in the general area of the Hualapai tract for ranch operations. The Atlantic and Pacific sales of granted lands presented by petitioner offer the best indication of market value for the type of grazing land in the Hualapai area. Although the railroad sales were of better grazing lands, we consider that petitioner's method of discounting by use of the cattle grazing capacity ratings has adequately compensated for the land quality factor. However, the cattle operators in 1883 were buying "checkerboard" lands from the railroad for which they could afford to pay a higher average per acre price since the opportunity existed to exercise control over the intervening sections and to graze large herds of cattle on the free public domain. Of course this "checkerboard" pattern of ranch operation had disadvantages and the ranchers would be aware that their control over the intervening lands could not last forever (at least not on a "free" basis). However, it did represent an immediate economic factor which would prevent application of average per acre figures for "checkerboard" sales to a large solid block such as the Hualapai tract. Further the immense size of the Hualapai tract dictates the necessity for an adjustment in applying average per acre figures from the much smaller, single ranch units represented in the railroad sales. Thus we would conclude that the \$0.485 average per acre figure computed by Mr. Myers from the railroad sales analysis, discounted to reflect the two factors alluded to above, would represent a reasonable and fair value for the surface acreage of the Hualapai tract.

In addition, the Hualapai tract possessed some extensive mineral deposits, which on the valuation date were well known and for which a ready and active market was in existence. It has not been possible, in our view, to make any definitive findings concerning the valuation date production of the Hualapai tract mines or any estimate of the 1883 knowledge concerning the extent of the various ore bodies. We have carefully weighed the opinions of the experts and consider that petitioner has arrived at a high figure based principally on the optimistic newspaper accounts of questionable reliability and to the virtual exclusion of many contemporary sales transactions. Conversely, we believe that defendant's expert has inserted much speculation in his calculations and has been too restrictive in computing the area which would have been productive. His conclusion as to the mineral value is too low.

Taking into consideration all of the evidence of record and based upon the findings herein entered and for the reasons set forth above we have concluded that the fair market value of the Hualapai tract, consisting of 4,459,500 acres, as of January 4, 1883, was \$2,800,000.00.

Wm. M. Holt
Associate Commissioner

We concur:

Arthur V. Watkins
Chief Commissioner

T. Harold Scott
Associate Commissioner