A Report on the

T A X A T I O N O F M I N E S I N N E V A D A

made for the

ASSESSMENT AND TAX EQUITY COMMITTEE

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ROBERT H. PASCHALL

Consulting Valuation Geologist and Engineer

Sacramento, California

TAXATION OF MINES IN NEVADA

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TAXATION OF MINES IN NEVADA

I. INTRODUCTION

In 1973 the Nevada State Legislature enacted Chapter 443 establishing the Assessment and Tax Equity Committee, whose members were then appointed by the Governor, to study the taxation of several types of property in the state. In early 1974 I was employed by the Committee to study and report on the mines net proceeds tax. In the course of the study I made a trip to Reno to discuss the scope of the job with Committee Chairman Dr. Glen Atkinson; studied the relevant Nevada statutes and the books listed in the attached bibliography; visited Carson City and conferred with several members of the Tax Commission staff; went to Ely and Yerington, county seats of White Pine and Lyon counties, the state's two largest mineral producers, to talk with the assessors; and met in McGill with Mr. W. H. Winn, general manager of the state's largest mine and member of the Nevada Tax Commission.

Finally, on June 14, 1974 I attended a public hearing held by the Assessment and Tax Equity Committee in Reno. At that meeting I made a presentation of the material contained in my preliminary report dated May 12.

This final edition of my report contains several items that were not included in the preliminary report. They are Section V on patented mines, Section VI on annual versus semi-annual reporting, and Appendix A, which lists recent statistics on the mines net proceeds tax.

II. SUMMARY AND RECOMMENDATIONS

The early history of Nevada ran not only parallel to, but was almost identical with the history of its mines. About seventy per cent of its population was engaged in mining when Nevada became a state, and its rapid progress to statehood reflected President Lincoln's interest in keeping the silver production of the Comstock lode under Union control.

The output of Nevada mines was still impressive in 1973, amounting to about $350 in gross revenues for every man, woman, and child in the state. The net proceeds tax itself has been a modest one, but that tax and the property tax on mining plant and equipment provide the main source of local revenue for five of the state's seventeen counties.

Moreover, exploration for many mineral commodities is now very active, and the price of the state's major mineral, copper, advanced during 1973 to an all-time high. Finally, recognition has developed in the past few years of the impending shortage of numerous minerals required to run our industrial society. Dependence on foreign sources has become a concern regarding minerals just as it has regarding fuels. This fact points to a continuing and probably increasing importance and value for Nevada's substantial mineral resources.

Now let us turn to the taxation of those resources.

Governor Patrick J. Lucey of Wisconsin said in 1973, in "The Role of the Property Tax in the Nation's Revenue System":

> "Our approach to property tax reform encompasses five dimensions:

"1. Reform in the administration of the tax, to improve efficiency and remove procedural inconsistencies that lead to inequities.

"2. Reform in the distribution of the property tax base, to insure that the fiscal resources of a community match its needs, and that state-wide standards of service are met.

"3. Reform in the incidence of the property tax. to make it more progressive in its input.

"4. Reform in the use of the property tax, to make certain that it is used only for those service functions which are truly local in import.

"5. Reform in the application of the property tax, so as to encourage the improvement of property and proper land use." (Biblio No. 5)

Governor Lucey's standards are highly relevant to the taxation of all active mining properties in Nevada. Nevada's net proceeds tax on "mines"--actually, on mineral rights or mineral deposits--is in lieu of property taxes. Article 10, Section 1 of the State Constitution says that a "just valuation for taxation" shall be applied to all types of property except mines, but that mines "shall be assessed and taxed...(on) the proceeds alone." And, of course, the local property tax rate is currently applied to a mine's net proceeds.

Present serious deficiencies exist in regard to items (1) and (3), namely, the administration and incidence of mines taxation. In turn, those deficiencies create problems relative to (2), the distribution of the tax base. The most serious defect in mines taxation is the artificial and arbitrary separation of assessment of the mine (mineral deposit) from assessment of the associated plant and equipment. Most mines tax inequities stem from that separation. That deficiency and others are stated briefly in the following recommendations, some of which are discussed in detail later in this report.

RECOMMENDATION No. 1

CENTRALIZE THE ASSESSMENT OF ALL PROPERTY INCIDENT TO THE OPERATION OF MINES.

That is, transfer the task of assessing mining plant and equipment from the county assessor to the Nevada Tax Commission. The present system of local assessment of all mining structures, machinery, and equipment has resulted in (1) serious inequities relative to other types of local property and (2) incorrect computation of the state-assessed net proceeds tax.

The first problem stems from assessors' acceptance of unaudited records, from taxpayer self-assessment, from erroneous methods of property appraisal, and from the fundamental lack of expertise in assessors' offices. The second problem rises out of the fact that the depreciation deduction used in computing the net proceeds tax depends on the values put on the local assessment roll for plant and equipment. Since those values are, in general, rather suspect, the depreciation deduction is also.

It is not possible to effect changes in the present haphazard system so long as administration is split. It is as important to have a single assessing agency for all mine-related property as it is to have a single assessor for residential houses and lots or for all the fixed and mobile property of a railroad.

Mining properties should be entirely state-assessed. For one thing, they are not really local properties, but are the reflection of geological events. The site of mines is determined by nature; men don't choose where they want to mine. Most mining commodities are international or at least regional in nature, and their economic range is limited only by the ratio of product price to cost of transportation.

Also, current administration by state and local authorities demonstrates the inherent advantage of the state's doing the entire job. State assessment permits employing a small professional staff which can develop an understanding of the mineral industry, and engage in at least broad comparisons from one mining property to another. Local assessment seldom provides this scope, as is highly apparent in Nevada. Local assessing officials are unprofessional and untrained, and each of them works briefly once a year on a handful of mining properties.

(See Section VII-A of this report for further information.)

RECOMMENDATION No. 2

APPRAISE ALL MINE-RELATED IMPROVEMENTS AND PERSONAL PROPERTY AT FULL CASH VALUE.

It cannot be said that an appraisal system now exists for mining structures, fixed machinery, and mobile equipment. The indicators of value mandated by NRS 361.227 are not employed, nor are criteria for valuation provided by the Tax Commission.

The appraisal problem appears to stem largely from the shortcomings of local assessment noted in Recommendation No. 1. My observation of the Tax Commission's work on the net proceeds tax indicates that the Commission would adopt correct methodology if the assessment of mines improvements and personal property was made its responsibility.

Correct methodology calls for standardized taxpayer reporting forms, periodic auditing of taxpayer returns, and the application by the assessor--not the taxpayer--of the sales data or replacement cost less depreciation approaches to value.

(See Section VII-B of this report for further information.)

RECOMMENDATION No. 3

AMEND NRS SUBSECTION 362.120.2(g) RELATING TO THE DEPRECIATION DEDUCTION FOR THE NET PROCEEDS TAX.

The quite correct intent of this subsection is to subtract from the gross income of a mining operation a sufficient amount to provide income to the plant and equipment, and therefore to exclude the value of the plant and equipment from the net proceeds assessment, which applies only to the mine. The present technique for accomplishing this end is wrong in both principle and application. It is wrong in principle because the percentage deduction for depreciation is applied to the assessed values of plant and equipment rather than to their historical costs; the deduction is therefore seriously understated, because the assessed value is only 35 per cent of someone's estimate of present value.

It is wrong in application because the technique now employed consists of multiplying only the depreciation rate (of from 6 to 10 per cent) by the assessed value. Even if historical cost were used, instead of assessed value, this technique would be incorrect, because it provides only for a return on investment but not for amortization of the investment. In short, this technique provides a further understatement of the depreciation deduction.

The understatement demonstrated results in a virtually certain overstatement of the net proceeds tax. Yet, the mining industry has never protested this obvious inequity. The reason for the industry's complaisance must almost certainly stem from consistent underassessment of mines plant and equipment. It will be shown later that undertaxation at the latter level more than compensates for overtaxation at the net proceeds level. That is still no excuse for the currently improper deduction for depreciation.

(See Section VII-C of this report for further information.)

RECOMMENDATION No. 4

THE TAX COMMISSION SHOULD RESCIND ITS DECISIONS CREATING EXEMPTIONS FROM TAXATION OF CERTAIN MINERAL COMMODITIES, AND SHOULD REFRAIN FROM FUTURE ACTIONS CREATING SUCH EXEMPTIONS.

The Commission engaged in actions in 1967 and 1969 that appear to contravene Article 10, Section 1 of the Constitution and subsection 362.100 and other portions of section 362 of the NRS. The Commission's decisions exempted sand and gravel and cement-plant limestone from the net proceeds tax. The first decision was based on the arbitrary finding that an active sand and gravel operation is not a mine. If this were really so, it would be advisable to determine how an equivalent tax should be levied on this valuable resource, rather than to exempt it from taxation. A statement was made to the writer that the later subjection of sand and gravel to the sales tax compensates for the net proceeds exemption. That may be so, but the tax substitution is informal and unofficial (in the sense that it is not sanctioned by the constitution or statutes), and poses an undesirable precedent.

The limestone decision was based on the interesting premise that the limestone is not "usuable" until it is processed. The same might be said of copper sulphides, iron ore, salines, or a host of other mining products. Essentially no minerals, with exceptions such as clean, well-sorted sand and gravel, are usable until they have undergone extensive physical and chemical changes.

One should keep in mind, also, that cement plants are typically located near a limestone deposit, since that rock constitutes two-thirds of the plants' product. A strange case of economics prevails if operators wittingly make this choice of situs but refrain from making a profit on the rock in their quarries.

One criterion, and only one criterion should rule in determining an operator's liability for the net proceeds tax. That is whether a correct net proceeds computation provides a positive or a negative answer. If a positive answer, the operator is tax-liable; if a negative answer, the operator owes no tax. The Tax Commission's staff is now making professional decisions of this nature regarding operations other than cement plants. There seems little doubt that the staff could do equally well on the cement plants themselves.

(See Section VII-D of this report for further information.)

RECOMMENDATION No.5

AMEND THE PORTIONS OF SECTION 362 OF THE NRS DEALING WITH THE PENALTIES FOR FAILURE TO FILE AND FOR FILING A FALSE STATEMENT.

More equitable administration of the net proceeds tax can be achieved by amendment of subsections 362.230 and 362.240 of the NRS. The first section cited, "Penalty for Failure to File Statements," now calls for a penalty of "not less than $100 nor more than $5,000." This stated range leaves a good deal to administrative discretion and, as well, may be punitive to a small operation and a mere slap on the wrist to a large one. For example, a net proceeds assessment of $5,000 will incur a tax levy of $175 at a tax rate of 3.5 per cent; in this case, a late-filing penalty of $100 would be 57 per cent as great as the tax itself. On the other hand, the tax on net proceeds of $5,000,000 would be $175,000, and a penalty of $5,000 would be less than 3 per cent of the tax.

A possible solution to this prospective inequity is to amend the subsection to read "A penalty of $50 or 10 per cent of the tax levy, whichever is greater." A minimum of about $50 is probably required to take care of administrative costs.

The other subsection, "Penalty for False Statements," deals only with willfully false statements, and even then provides no specific monetary penalty for perjury. This subsection of the NRS might be rewritten to impose a penalty of, say, 10 per cent of the tax for a false statement, and a later penalty of an additional 15 per cent of the tax if the false statement is proved to be willful.

III. SOME PRINCIPLES OF MINES TAXATION

A. WHO SHOULD PAY TAXES ON WHAT?

A great deal of nonsense was expressed a century ago on the taxation of mines. Unfortunately, much of that nonsense became folklore, and is entrenched as such in the minds of mining industry people. This is the case in the face of the fact that both mining operations and economics and our society have become much more sophisticated than they were a century ago, so that many of the old saws are no longer valid, if they ever were. Of course, the entrenchment of outmoded ideas is not confined to mining, but some mining industry cases are worth exploring.

In Nevada's early constitutional debates, which were dominated by miners, the majority opinion first held that mines should not pay taxes at all. It was maintained that, if it were not for the mines, nobody would even be in Nevada, and therefore all nonminers--farmers, teamsters, grocers, blacksmiths, and others--lived off the bounty of the mines and should pay all of the taxes. It was held that the mines themselves paid taxes by virtue of supporting the rest of the community.

An effort was made to put the entire burden of state and local government on miners. But it simply would not work. The nonmining thirty per cent of the population was not able to support a statehouse and other perquisites of government, even in the simple days of the 1860s. Put another way, the mining community did not pay nonminers enough to support the government by themselves. So even the miners ultimately recognized the necessity for taxation of mines.

Another view common to the mining community is expressed in the statement that

> "(Mines) do not bear the same relation either to the benefit from government or to the need of the community for revenue (that other properties do)." (Biblio No. 7, p. 5)

The problem here is that it would take Solomon himself to determine exactly what benefits the mining industry does derive and should help pay for. Quite recently (in 1973) federal agents apprehended a gang of Nevada mining high-graders, and returned a half-million dollars' worth of stolen ore concentrates to a mining company. The transportation system of roads and railroads is either currently subsidized by government or was subsidized in past generations; this tax-supported system is so important that, did it not exist, the mining industry itself could not survive.

Also, skilled laborers and professional men are educated through high school almost entirely at public expense. Most of the professionals--geologists, engineers, accountants, and others--receive their advanced education at state universities. It would not be possible to operate a modern mine without this tax-subsidized labor force.

Finally, the sole or major purpose of some towns is to house the people who run the mine. It is not possible for a purely "bedroom" community to support a viable government by the taxation of homes. At the same time, a mine profits from the existence of its supporting town, just as the town does from the mine. As a result, a logical case exists for support of local services by the mine, since a feedback should result in the form of a more stable and satisfied labor force.

B. THE NET PROCEEDS TAX SYSTEM

Nevada's net proceeds tax system constitutes a recognition that a mine's proper function is to yield a net income, as well as a mineral commodity. That is, a mine does not carry with it the amenities that come from owning a home or even a ski resort, both of which may provide their share of emotional and social satisfaction. The net proceeds tax makes much more sense than a gross production (or "severance") tax because the net proceeds tax embraces the "ability to pay" principle. It levies a higher tax on a dollar of gross income from a profitable mine than on a dollar of gross income from an unprofitable one, although a gross production tax would treat both mines the same.

The net proceeds tax reflects the first step taken in mining property appraisal for ad valorem taxation as it is practiced in California, namely, the computation of the most recent year's net income. In California the past year's net income is commonly used in estimating the future net income, which is capitalized into the value subject to taxation; in Nevada, the past year's operating net profit, less depreciation, constitutes the tax base for the mineral deposit alone. It is evident that the California system requires a much greater degree of geologic, engineering, and economic analysis than the Nevada system, and demands estimation of ore reserves, future rate of production, and the capitalization rate.

Indeed, I believe there is nothing wrong with Nevada's net proceeds tax system so long as the fallibility of man and existing administrative problems are recognized and accounted for. The former was Adams' concern when he wrote:

> "The chief way in which mining corporations evade their taxes is by organizing secondary corporations for transportation and reduction purposes, and by doing the business in such a way as to make it appear on the surface that the mining corporation is making a very small profit, but that the business of the secondary corporation is very profitable." (Biblio No. 1, p. 59)

This was a Nevada speaking of Nevada mining companies.

There is no doubt that <u>the value of ore in the ground</u> may vary radically from one mine to another because of variations in the richness of the ore, the difficulty of extraction, costs of transportation, and other economic factors. But this genuine economic case should not serve as a cloak for artificial "transfer prices" used within a single company to shift costs and income for the sole purpose of evading taxes. On this subject the Utah Tax Commission correctly

> "suggested valuation of the ore at the mouth of the mine, and the deduction of only reasonable costs (not exceeding actual costs) of transportation, smelting, refining, etc." (Biblio No. 7, p. 113) (underlining added)

The specific problem cited by Roberts can be avoided by proper record-keeping and auditing in administering the net proceeds tax.

C. LOCAL ASSESSMENT OF PLANTS AND EQUIPMENT

Roberts said:

> "The fact that in spite of overwhelming technical difficulties in the way of assessment of mines and surface improvements most...states leave mine valuation to those unfamiliar with mining, makes it clear that what pretends to be uniformity in revenue measures actually is not." (Biblio No. 7, p. 7-8)

Roberts' comment, made thirty years ago, seems completely contemporary, which is often the case when one reviews systems of taxation. Actually, the case could be much worse in Nevada. It is true that the problem of professional inadequacy at the local level is not only extremely serious, but appears to be unresolvable at that level. But, it can be resolved by centralizing the assessment of mining properties at the state level.

D. WHERE DOES THE VALUE LIE?

The literature on mines valuation and taxation is replete with arguments on the relative contributions to value of the mineral deposit (mine, in Nevada terms) and the mining and processing plant and equipment. It is proposed here that all arguments have been written with blinders on, and are generally irrelevant to the tasks of the valuation engineer and the tax administrator. Economics supplies the answers and resolves the arguments. But before the role of economics is revealed, let's see what protagonists have had to say on this question.

> "Mr. Finlay...pointed out that the plants connected with mines had no value in themselves. They could not be moved, their scrap value was doubtful, and it was the deposit which gave a value to the plant. Professor Cook...found that none of these deposits gave an additional value to the land, that the supply was in excess of the possible demand, and that it was the plant which gave the value to the deposit." (Biblio No. 7, p. 28)

The paradox posed here is a fascinating one, because if Mr. Finlay's and Professor Cook's opinions are combined, we are faced with the prospect of knowingly worthless investments having been made in land (mineral deposit) and in man-made improvements. That paradox is only partly resolved when one is informed that Mr. Finlay was talking of metallic mines and Professor Cook of nonmetallics.

The geologic difference between metallics and nonmetallics is obvious, but their economic difference, as it is posed above, is highly misleading. And it is economics that counts. Here is the critical element that brings miners, valuation engineers, and tax authorities onto a common plane: <u>the relative values of plant and mineral deposit depend on the relationship between the unit price of the mineral commodity and the cost of producing and marketing the commodity</u>.

If a mineral brings a very high price, and the cost of mining and marketing it is very low, the value of the mineral deposit is high relative to the value of the plant and equipment needed to bring it to market. The extreme in this case might be that of a lucky skin-diving gold miner who uses $500 worth of equipment to bring $5,000 worth of nuggets to market. The value of the miner's "mine" (or net proceeds) is very high in relation to the value of his "plant and equipment" because gold commands a high unit price and requires almost no processing (in this case, at least).

The other extreme might be the case of a marginal sand and gravel operation. The plant will-call price may be $2.00 or less per ton (versus $150 per ounce), and the cost of transportation to the point of use may equal the will-call price. If the sand and gravel require considerable washing to remove silt and clay, and extensive screening to yield salable grades of material, the processing costs depress the value of the deposit, that is, the value of the net proceeds.

In between gold nuggets and dirty sand and gravel one may find all levels of net proceeds relative to values of plant and equipment, ranging from a high-grade copper deposit at the upper end to a dolomitic cement-plant limestone at the lower end.

But to sum up: arguments on the subject are futile, because they can be so readily settled by reference to investment records and operating statements.

IV. ROLE OF THE NEVADA TAX COMMISSION IN MINES TAX ADMINISTRATION

The net proceeds of mines tax is administered by the Nevada Tax Commission. It appears that the job was a stepchild for many years, but for the present, at least, it has found a home. The Commission's Audit Division was given the mines tax assignment only two years ago. The Division has responded admirably to its task. Taxpayer reporting forms and instructions have been reviewed and revised; one form has been devised as a tool for seeking out properties or royalty interests whose operators or owners have not previously filed a tax report; regulations pertaining to filing and to the penalty for failure to file have been sent to all known taxpayers; finally, an audit program has been instituted to verify the accuracy of the reports that have been filed.

One shortcoming in the Commission's program is its longtime acceptance of assessors' values of plants and equipment as the source for the depreciation deduction used in computing net proceeds. Here, however, the fault lies more with the law than with the Commission; the depreciation deduction is discussed in both Section II, Recommendation No. 3, and in Section VII-C of this report.

Recommendation No. 4 (in Section II and in Section VII-D) deals with the Commission's creation by resolution of two mineral property tax exemptions. It is evident that these exemptions conflict with the Nevada constitution and statutes. The Commission can correct this serious discrepancy in its system of tax administration by rescinding the resolutions.

V. THE CASE OF PATENTED MINES

At the time of the Reno hearing of the Assessment and Tax Equity Committee, committee member Assemblyman D. J. Demers provided me with a memorandum from the office of the Assessor of Clark County, expressing concern with the wording in Section 1 of Article 10 of the State Constitution in regard to patented mines. The constitution says, in part:

> "...when patented, each patented mine shall be assessed at not less than five hundred dollars ($500), except when one hundred dollars ($100) in labor has been actually performed on such patented mine during the year, in addition to the tax on net proceeds;..."

The proper concern of Assemblyman Demers and the Assessor was that valuable property classified as patented mines but not subject to minerals exploitation might be sheltered from correct assessment.

I was equally concerned about this matter in the course of my original study, but chose not to comment on it because it is not a mines tax problem. Instead, it is a legal problem based on the improper use of the term "patented mine." That term should probably never have been placed in the constitution. The patenting of a previously unpatented mining claim creates patented land, which carries all the rights and privileges of other privately owned land. That patented land may then be used for any purpose, and is not much more likely to be subjected to mining operations than nonpatented fee land is.

In response to my concern over the wording in the State Constitution, Deputy Attorney General James D. Salo wrote a letter dated April 15, 1974, in which he said:

> "Please see NRS 362.095 which authorizes the taxation of nonoperating patented mines which are used for other purposes."

NRS 362.095 says:

> "Whenever any portion of a patented mine is used by the patentee or a successor in interest for a purpose unrelated to mining or agriculture, the portion of such patented mine so used shall cease to be a patented mine or part thereof and shall be taxed as other real property is taxed."

It is evident that the Legislature recognized the potential for tax inequity posed by a literal interpretation of the constitution, and properly confined the constitutional limitation on taxes to active mines (and agriculture, whose mysterious inclusion I will not comment on).

VI. ANNUAL VERSUS SEMI-ANNUAL REPORTING BY TAXPAYERS

Assessment and Tax Equity Committee Chairman Dr. Glen Atkinson asked me in a letter dated May 22, 1974 to comment on the relative merits of annual versus the present semi-annual reporting by mines taxpayers. Annual reporting has the quite apparent merit of cutting paperwork in half for both the Tax Commission and taxpayers.

Moreover, annual calendar-year reporting would probably conform with bookkeeping by taxpayers for other purposes--namely, income taxes and reports to stockholders. Finally, should the state adopt this report's Recommendation No. 1, which proposes that the Tax Commission assess mines' plant and equipment, a single date for reporting both net proceeds and property items should be convenient for the Commission.

Obviously, three groups of people are affected by the dates for reporting: taxpayers, the Tax Commission, and county commissioners and others interested in budget-setting and county revenues. As a result, no decision should be made without seeking written statements from each group on the impact on that group of a change in reporting dates.

VII. EXPANSION ON SOME OF THE RECOMMENDATIONS

A. CENTRALIZATION OF MINING PROPERTIES ASSESSMENT (RECOMMENDATION No. 1)

I cannot state too strongly the need for a single authority, in this case the Tax Commission, to serve as the assessor not only of the mines net proceeds but also of all associated mining and quarrying structures, fixed machinery and equipment, mobile equipment, railroads, et al. Why is this recommendation held to be the most important?

1. As noted earlier, mine and equipment constitute an operating and economic entity. Dr. Ronald B. Welch remarked (in Biblio No. 10) on the importance of the <u>unit value</u> concept, as

opposed to the summation appraisal method. In brief, a residential property is subjected to summation appraisal if the values of the lot and the house are estimated independently of one another; it would be only coincidence if the sum of their "values" was equal to the market value of the total property. Even though a mine's net proceeds is not its value, the separation of tax administration of plant and mine is basically unhealthy.

2. Assessors do not employ standard forms for taxpayer reporting. In fact, they employ no forms at all. Taxpayers report as they please, which means that reports run the gamut from very good to absolutely terrible. A specific case of the latter consisted of five handwritten pages purporting to be the assessed values of several million dollars' worth of plant and equipment.

3. Assessors are not trained in any way to value mining property plant and equipment. They honestly recognize that fact and acknowledge that they are not in a position either to acquire such training or to hire anyone capable of doing the job.

The most serious problem of all stems directly from the consequences of items (2) and (3). That is the fact that all mining plant and equipment assessments are self-assessments that are never subject to audit. This is a most enviable position for any taxpayer to attain, and inevitably proceeds from tax minimization to some instances of tax dodging.

A small professional staff in the Tax Commission's office could correct the present situation in short order. One professional appraisal engineer, an accountant, and one clerk should suffice to perform the job of mining plant and equipment appraisal for all of the state's mining and quarrying properties. This staff is in addition to that now engaged in administering the net proceeds tax. Of course, the staff should be adequately paid and given the freedom to do its job.

B. FULL CASH VALUE APPRAISAL OF PLANT AND EQUIPMENT (RECOMMENDATION No. 2)

The next section of this report, proposing a revised system for computing the net proceeds depreciation deduction, tells about a plant whose "full cash value" for assessment purposes was about $2,000,000 at a time when its replacement cost less depreciation (RCLD) was about $7,800,000. Since the plant is only ten years old, it is unlikely that its RCLD was seriously overestimated by the writer. Even if the estimated RCLD is 25 per cent too high, which is unlikely, the assessor's <u>full cash value</u> would still be a mere 34 per cent of the RCLD.

Put another way: it is not possible to derive an assessment ratio for this plant higher than 12 per cent, as opposed to Nevada's mandated ratio of 35 per cent.

In general, it might be said that Nevada's mining property plant and equipment are presently valued for tax purposes at historical cost less depreciation (HCLD). Now, in some instances HCLD may furnish a reliable value indicator for tax or other purposes. But that cannot possibly be the case if historical costs are never audited and the depreciation is estimated by the taxpayer. There can be little doubt that an assessment ratio study of mining plant and equipment would yield a high coefficient of dispersion and ratios that ranged from a little low to exceedingly low.

Actually, RCLD should be the best guide to value of any machinery and equipment operated by competitive private enterprise. Difficult but not insoluble problems may arise relative to estimating depreciation, but intelligence and good will should prevail, and the lives of mineral deposits should be taken into consideration in estimating the lives of plant and equipment.

C. AN ANALYSIS OF THE DEDUCTION FOR DEPRECIATION (RECOMMENDATION No. 3)

It is not often that sophisticated taxpayers fail to complain about an obvious inequity that inflates their taxes. But this appears to be the case regarding the deduction for depreciation in computing the net proceeds tax that is permitted under NRS subsection 362.120.2(g). That subsection says in part:

> "Depreciation at the rate of not less than six per cent nor more than 10 per cent per annum of the assessed value of the machinery, equipment,..." etc. (underlining added)

The purpose of the deduction cannot be argued. It is necessary to remove from the gross income the income attributable to only the mineral deposit. But, to do this correctly, it is necessary to subtract the amount required to provide a return on the capital invested in the plant and, as well, provide for the recapture (amortization) of that capital. This is correctly done by multiplying the total investment by a Capital Recovery Factor (CRF); the CRF is the same as a "mortgage coefficient" or a "periodic repayment factor," which is multiplied by the amount of a mortgage to find the payment required each year (or month) to retire the mortgage while paying interest on it.

Now, how does this bear on the taxation of mines in Nevada? Let's look at the tax history of a fictitious (but typical) Nevada mining plant which was "appraised" by deducting annual value depreciation in the amount of 10 per cent of historical cost until a permanent level of 20 per cent of historical cost was reached. Its cost ten years ago was $10,000,000, so its alleged present full cash value is $2,000,000 and its assessed value (at 35 per cent) is $700,000.

However, the plant's replacement cost would now be $13,000,000, because of 30 per cent inflation in construction costs in the past ten years. Also, it happens that the value of a well-maintained plant tends to stabilize at a level of at least 60 per cent of its current replacement cost. So the replacement cost less depreciation of the plant is now about $7,800,000.

In this case we shall assume a twenty-year life for the plant. The CRF selected should embrace the expected rate of return on investment that prevailed when the plant was built. That rate ten years ago was about 10 per cent, so the capital recovery factor is .1175, and the appropriate annual allowance for depreciation for the plant in question is .1175 times $10,000,000, or $1,175,000.

We are now in a position to compare taxes as they are now derived and the way that they should be derived.

	Current method	Correct method
Plant and equipment full cash value	$2,000,000	$7,800,000
Assessed value at 35 per cent ratio	700,000	2,730,000
Taxes on plant and equipment at 3.5% of A.V.	24,500	95,550
Depreciation deduction for net proceeds tax:		
At 6 per cent of assessed value CRF times original investment	42,000	1,175,000
Tax credit on depreciation deduction, at 3.5 per cent of deduction	1,470	41,125
Plant taxes minus depreciation tax credit	23,030	54,425

It is evident that the assessor's undervaluation of the plant and equipment in this case creates a saving to the taxpayer of $54,425 minus $23,030, or $31,395. Put another way: <u>the net tax on the plant is less than one-half what it should be</u>, <u>without regard for the level of either the assessment ratio or the local tax rate.</u>

It should be recognized that this is but a single example, and that the case will differ from one plant to another because of differences in their ages, the depreciation percentage employed by the Tax Commission, and the accuracy of self-assessment. But the case remains for serious current undervaluation of plants and equipment, and the case is bolstered by the industry's silence relative to the underallowance for depreciation in computing net proceeds.

D. TAX EXEMPTIONS CREATED BY THE NEVADA TAX COMMISSION (RECOMMENDATION No. 4)

The Commission made two decisions, one in 1967 and the other in 1969, that run contrary to Nevada law and to some fundamentals of mining geology and economics. Both of these decisions still stand, and must be complied with currently by the Commission's designated administrator of the net proceeds tax.

1. Sand and Gravel and "Surface Rock"

The minutes for the meeting of May 3, 1967 state that separate motions were made, seconded, and carried unanimously, decreeing that operations involving sand and gravel and "rock gathered at random from the surface" are not to be "...considered as a mine and not subject to net proceeds of mines tax," while on the other hand "...rock quarried from a deposit in place..." should be considered a mine.

The geologic implications of this decision are most unusual. Since a mine may be considered to be a deposit of valuable rock or mineral, the decision states that granite, for example, may have value as aggregate if it is blasted out of a quarry and crushed for use, but is valueless if it is scooped up in the form of cobbles in a creek bed and put to the same use. Actually, it is probable that its value will be greater in the latter case, because of the lower cost of extraction.

An interesting analogy might be drawn with the California gold country. By far the greatest value in gold was taken from modern and ancient river gravels, while a lesser amount came from hard-rock lode mines. One would not propose that auriferous gravel, because it is "rock gathered at random from the surface," was not valuable, while attributing value to the hard-won quartz-vein gold.

The Commission should review and revoke this 1967 decision, in recognition of the fact that sand and gravel are highly important mineral commodities without which our present economy could not thrive. Highways, curbs and sidewalks, driveways, foundations, and some entire buildings are made of concrete, about 85 per cent of which consists of sand and gravel.

Statutory and judicial decisions lend weight to the geologic and economic elements in this case. For example, NRS 362.110.1 says "...valuable mineral or mineral deposit, whether metallic or nonmetallic." Sand and gravel constitute nonmetallic mineral deposits just as surely as barite or borates do.

Direct evidence bearing on the value of sand and gravel exists at one important west-central Nevada location. An aggregates operator there pays the Federal government a reported royalty of 17 cents per cubic yard. This royalty payment provides the basis for a possessory interest net proceeds assessment.

The Attorney General of the State of Nevada wrote the secretary of the Tax Commission on May 10, 1966, on the subject of minimum valuation of mines. That is not the topic here, but some of the Attorney General's comments are germane. He himself quoted Sutherland, Statutory Construction, 3rd Edition, Vol. 3, Sec. 5819:

> "'(Tax) statutes...must be carefully considered for the reason that public or private rights may often be dependent upon them. Thus a grant of authority to a governmental subdivision to levy a tax for a public purpose is mandatory for the reason that the public has an interest in securing the benefit for which the statute provides. Authority granted to tax certain property is mandatory, because of public interest in having taxes in general reduced. (emphasis added by Attorney General)

He then quotes a portion of the opinion of the Nevada Supreme Court in Goldfield Consolidated Mining Company vs. State, 60 Nev. 241 (1940), a case relating to the taxation of mines:

> "'Further, they (the respondents) call attention to the fact that taxation is the rule and tax exemption is the exception.'"

2. Limestone and Clay Used in Cement Manufacture

The Commission made a ruling at its meeting of April 23, 1969, that achieved the same end as in the case of sand and gravel, that is, it exempted limestone and clay used in cement from mines net proceeds taxation. On this occasion the Commission appeared to act on a purely economic basis, but its economics is curiously arbitrary and contradictory. These remarks were made in a letter written in 1969 to a taxpayer by the Commission's net proceeds tax administrator:

> "The Nevada Tax Commission has approved the proposition that (the taxpayer) file an abridged net proceeds of mines report...which would show gross yield equals cost of operation.
>
> "This authority was extended to any other mining operation which can prove that the product being mined has no value in itself; that the use thereof is essential to the production or manufacture of another substance. In this instance the value assigned is presumed to be equal to the expense incurred in mining, transporting, and using the product."

Let's examine the internal contradictions in the foregoing paragraphs. First, a cement company always builds its plant near a body of limestone; it would not propose to build a plant near a body of granite or basalt, because it is not possible to make cement out of those rocks. It is apparent, then, that limestone has a value "in itself" for the purpose of making cement, since there is no substitute for it.

Second, the fact that both limestone and clay must, in this case, be mixed with something else in order to create a useful product in no way implies that, alone, neither has any value. For analogy: iron must be mixed with carbon and other elements to make steel, but this fact does not render an iron ore body valueless "in itself." That would be an absurdity, of course, and the minerals industry can provide many similar examples.

Finally, we must consider the strange case of putting the end-use cart before the net-proceeds horse. The taxpayer was instructed to file a report that showed expenses equal to gross income, apparently whether that was actually the case or not. The taxpayer had only to prove that the product being mined has no value in itself. But how can one really prove whether that is the case? Namely, by computing net proceeds, including an allowance for depreciation on plant and equipment; if a positive net proceeds is developed, it reflects a value for the mineral deposit, that is, the mine (or quarry).

Of course, many Nevada miners incur a net loss on their operations, and pay no net proceeds tax in a period when a net loss is incurred. So it is possible for a mine to have a zero value, but that mine may be engaged in extracting gold instead of limestone.

It is apparent that the profit-and-loss statement should render the decision on a mine's value. Arbitrary tax exemption of certain classes of rocks and minerals is not the answer.

VIII. THE NET PROCEEDS TAX LEVY

The determination of actual revenues to be derived from a tax is a social and political task. But it is not possible to levy a just tax unless one understands what is being taxed. Let us begin by reviewing part of Article 10, Section 1 of the Nevada Constitution:

> "The legislature shall provide by law for a uniform and equal rate of assessment and taxation, and shall prescribe such regulations as shall secure a just valuation for taxation of all property, real, personal and possessory, except mines and mining

claims, when not patented, the proceeds along of which shall be assessed and taxed..."

Thus, Nevada law does not call for the valuation of mines, but it does require "...a uniform and equal rate of assessment and taxation" based on "the proceeds alone." The legislature complied with this mandate in NRS 362.100, where it chose to interpret the constitution to mean the <u>net</u> proceeds of a mine should be employed as its <u>assessed</u> value. The words "net" and "assessed" are underlined because they appear to be interpretive; that is, the legislature might have chosen to use <u>gross</u> proceeds as the basis for assessment, or it might have chosen to make net proceeds subject to the 35 per cent assessment ratio. In the first case the tax levy would be much greater than it is, while in the second case it would be only 35 per cent of the current levy.

The legislature made a wise decision in selecting net proceeds as the tax base rather than gross proceeds, because a gross proceeds tax commonly results in serious inequities when applied to income from mineral properties (and from other types of property, as well). Also, the legislature's decision to use the entire net proceeds as the tax base, rather than 35 per cent of it, was a relatively good choice if the net proceeds tax is deemed to be in lieu of ad valorem taxation. Any viable mine is worth at least one year's net income--in fact, it is apt to be worth three to five times one year's net income--so any dilution of the net proceeds as a tax base would create inequities relative to the "uniform and equal rate of assessment and taxation" of other types of property.

Now, on reflection, just what kind of tax is the net proceeds tax? Its origin in Article 10, Section 1 of the Constitution and its subjection to the local property tax rate make a good case for its being in lieu of ad valorem taxation of mineral rights (mines). But it is not an ad valorem tax because, as implied above, a mine's value at a given time is equal to its most recent net proceeds only by coincidence. Also, the net proceeds tax is not a sales or franchise or excise tax.

By elimination, the net proceeds tax is a form of income tax, but at a quite different level than the Federal income tax. Here are the two forms of taxation compared.

	Items deducted in computing	
	Income tax base	Net proceeds tax base
Operating and maintenance expenses	Yes	Yes
Property taxes	Yes	No
Interest on debt	Yes	No
Depreciation	Yes	Yes
Depletion	Yes	No

Here is an example, using a fictitious Nevada mine.

	Federal income tax	Net proceeds tax
Gross income	$1,000,000	$1,000,000
Less:		
Operating and maintenance expenses	650,000	650,000
Property taxes[1]	12,250	----
Interest[2]	9,000	----
Depreciation	100,000[3]	21,000[4]
Depletion[5]	60,000	----
TAX BASE	$ 168,750	$ 329,000

1/ On plant and equipment that cost $1,500,000 and are now valued at $1,000,000 for property tax purposes.
2/ 9 per cent on a working capital loan of $100,000.
3/ Straightline on plant and equipment with a 15-year life.
4/ 6 per cent of the assessed value of $350,000.
5/ 15 per cent of 40 per cent of gross income.

The limitations of this sort of comparison should be noted. The Federal income tax may be deemed as a tax on the income of the owner of a property, whereas the net proceeds tax is more nearly a tax on the income of the property itself. Thus, an owner incurs interest expense, and an owner suffers depletion of his physical property, and is allowed to deduct those costs (only one of which is out of pocket) in computing his tax base. But the property itself incurs no debt interest cost, and the Federal "depletion allowance" actually constitutes part of the property's cash flow.

The Federal income tax deduction for depreciation permits recapture of invested capital. As noted earlier, the net proceeds tax deduction for depreciation is intended to allocate income to the plant and equipment. Also as noted earlier, this deduction is not made correctly at present; in the case above, the proper annual deduction for depreciation would be \$197,000 (instead of \$21,000) if the investor's rate of return was 10 per cent. Thus, if the plant and equipment were properly assessed (which appears to be unlikely at present), the net proceeds tax base is seriously overstated.

Finally, a Nevada mine's net proceeds is taxed at the local property tax rate. The relevance of that rate to income taxation is uncertain, and obviously the rate may very from one jurisdiction to another for the same kind of mine. Of course, that sort of imbalance prevails for other types of property, too, except that the owners of mines have no choice in selecting the location of their property.

In conclusion: in principle the net proceeds tax is a tax on the income from a mine; it appears to be a logical sort of tax; the amount of the tax levy might be modestly improved on by applying a statewide uniform tax rate instead of the local property tax rate.

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APPENDIX A

RECENT HISTORY OF NEVADA'S NET PROCEEDS TAX LEVIES

(ALL DOLLAR FIGURES IN THOUSANDS)

Year	Mines Gross Revenue	Per Cent Change	Mines Net Proceeds	Net as Per Cent of Gross	Annual Tax	Tax as Per Cent of Gross	Tax as Per Cent of Net
1964	$ 52,445	--	$16,613	31.8%	$ 563	1.07%	3.4%
65	66,533	+27%	17,807	26.8	605	0.91	3.4
66	78,702	+19	27,084	34.4	904	1.15	3.3
67	60,963	-23	23,542	38.7	772	1.27	3.3
68	87,754	+44	30,985	35.3	1,090	1.24	3.5
69	138,403	+58	58,424	42.2	2,105	1.52	3.6
70	151,734	+10	59,043	39.9	2,106	1.39	3.6
71	127,615	-16	40,174	31.5	1,457	1.15	3.6
72	143,865	+13	53,116	37.0	1,994	1.39	3.7
73	167,393	+16	57,362	34.2	2,177	1.30	3.8

APPENDIX B

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APPENDIX C

AUTHOR'S QUALIFICATIONS

ROBERT H. PASCHALL
460 Lovella Way
Sacramento, Calif. 95819
Telephone 916-451-2552

Professional Memberships and Licenses
Registered Geologist, State of California (Certificate No. 8)
Registered Engineer, State of California (Certificate PE No. 537)
Certified Property Tax Appraiser, State of California (Certif. No. 15)
Member, American Institute of Professional Geologists
Member, Amer. Inst. Mining, Metallurgical, and Petroleum Engineers
Member, International Association of Assessing Officers
Member, American Society of Appraisers
Member, American Arbitration Association

Experience in Review of Mining Properties Assessment Practices
Have audited the appraisal and assessment practices of the assessors of more than 20 California counties that produce more than $275 million worth of minerals each year from mines and quarries. The audits require a study of forms used for taxpayer reporting, the extent to which adequate data are acquired by the assessor, and the techniques used in valuing mine and quarry properties. The mineral commodities of the counties studied include tungsten, borates and other salines, refractory and common clays, rare earths, diatomacous earth, glass sand, cement, sand and gravel, and numerous other less important items.

Professional Writing Credits
Assessors Handbook 560, Valuation of Mines and Quarries, 1973, State Board of Equalization, Sacramento, Calif. (editor and co-author; 135 pages)

Assessors Handbook 566, Valuation of Oil and Gas Producing Properties, 1966, State Board of Equalization, Sacramento, Calif. (editor and principal author; 265 pages)

Recent Relevant Professional Speaking Credits
December 1970: lecturer in seminar on "Valuation of Oil and Mineral Rights" sponsored by Arizona State University and the International Association of Assessing Officers; Phoenix, Arizona

June 1973: speaker on the subject of "Valuation of Metal Mines" at the international conference of the American Society of Appraisers; Toronto, Canada

April 1973: speaker on the subject of "Appraisal of Mineral Properties for Tax Purposes" at the annual seminar of the Society of Real Estate Appraisers; Modesto, Calif.

Relevant Teaching Experience
1969-70: academic year: lecturer on staff of Sacramento State University, teaching a course in "Elements of Physical Geology."

February 1973: composed a 65-page syllabus and conducted a two-day seminar in Bakersfield, California on "Valuation of Cement Plants for Tax Purposes." Participants were assessors' appraisers from eight cement-producing counties.

Annually serve as instructor in State Board of Equalization course on Valuation of Mines and Quarries.

Experience in Mines and Quarries Valuation for Tax Purposes (all in California)

General statement: each of the assignments listed below typically required conferring with corporate engineers, controllers, and tax representatives; visiting the mine, mill, and related facilities; reviewing ore reserves estimates; and analyzing operating statements and depreciation schedules.

1. Kaiser Steel's Eagle Mountain iron mine, Riverside County (largest iron mine west of Rockies).

2. Union Carbide's Pine Creek tungsten mine, Inyo County (largest tungsten mine in North America).

3. New Idria Mining Company's mercury mine, San Benito County (at the time the largest mercury mine in the United States; now idle).

4. Cement plants and quarries in two counties.

5. Numerous smaller properties that produce talc, sand and gravel, plaster sand, crushed rock, et al.