

May 1998

FEDERAL LAND MANAGEMENT

Appraisal of Crown Butte Mines' New World Property



**Resources, Community, and
Economic Development Division**

B-280072

May 29, 1998

Congressional Committees

In Public Law 105-83, the Congress authorized and appropriated up to \$65 million to acquire mining interests held by Crown Butte Mines, Inc., its New World property, which is located near Yellowstone National Park. Before the acquisition can occur, however, the law requires that four conditions be met, including that the property be appraised and that the Comptroller General review the appraisal within 30 days. The Crown Butte interests are located on land in the Gallatin National Forest, and the land will be managed by the Department of Agriculture's Forest Service once it has been appraised and acquired; for this reason, the Forest Service arranged for the appraisal. We received the completed appraisal on April 30, 1998, and this report presents the results of our review.

Specifically, we reviewed the appraisal to (1) determine whether it complied with federal appraisal standards and how the value of the appraisal was derived and (2) assess key assumptions used in the appraisal. To do this work, we reviewed federal appraisal standards and instructions and the appraisal itself and discussed the key assumptions with the appraiser, Forest Service officials, Department of Justice officials, and outside experts. In the limited time available to us, we reviewed only the summary appraisal report and not the technical appendixes, proprietary data, or supporting analyses that accompanied the summary or were used in developing it.

Results in Brief

We did not identify any areas in which the appraisal of Crown Butte Mines' New World property deviated from federal appraisal standards. Federal appraisal standards state that the government should appraise a property to be acquired at its fair market value. We found that the appraiser relied on two approaches to derive this fair market value: (1) evaluating comparable sales and (2) estimating the gross income from future mining operations and adjusting this amount to the present value of the reserves in the ground. Following these standards led the appraiser to estimate the value of the property at \$72 million and reduce this amount by about \$3 million to account for reserved mining royalty interests granted by Crown Butte to a third party and a conservation easement limiting mining on parts of the property.

Our work found that four key assumptions made during the appraisal process tended to raise the value of the appraisal; and if other assumptions had been used, the appraised value might have been lower. We do not, however, question the reasonableness of the assumptions made. In particular, the appraisal assumed that (1) mineral rights associated with a portion of the property subject to a conservation easement have no value because the easement will prevent mineral development, (2) the mining operations that Crown Butte had planned would have been issued permits by state and federal agencies in a timely manner, (3) known hazardous waste conditions would not affect the property's value, and (4) Crown Butte's estimate of gold reserves is valid. We did not estimate the specific monetary impact of these assumptions. However, we believe these assumptions could have tended to increase the appraised value in comparison with the value that would have been estimated using others. For example, if permits had been delayed for a year, the present appraised value would have been lower. The appraiser noted that the appraisal could not have been completed without making assumptions to address these issues. We do not believe that the use of these assumptions invalidates the appraisal estimate.

Background

Crown Butte Mines, Inc., applied for a permit to construct and operate a mine—to produce gold, silver, and copper—in the New World mining district in November 1990. Located about 3 miles from the northeast boundary of Yellowstone National Park, the New World mining district has had mining activity since the 1860s. Facing increasing opposition to the proposed project over concerns for the park's water quality and other resources, in August 1996 Crown Butte and the federal government agreed to exchange Crown Butte's New World property for up to \$65 million in federal assets (subject to an appraisal that the property has a fair market value of at least this amount).¹ Of this amount, \$22.5 million is to be placed in an escrow account to fund environmental response and restoration in the district, which, according to Department of Justice officials, the United States will direct. Any cost above the \$22.5 million will be borne by the United States. The federal government plans to permanently withdraw any lands acquired from subsequent mineral development.

¹A third party to the exchange agreement is the Greater Yellowstone Coalition, a coalition of environmental groups. The coalition agreed to settle its legal action against Crown Butte and not to pursue legal action against the federal government for certain environmental effects of previous mining in the New World district. Acceptable exchange lands could not be found; therefore, Crown Butte agreed to accept a cash payment for the property.

The Congress, in its fiscal year 1998 appropriation for the Department of the Interior and related agencies, authorized and appropriated up to \$65 million for Crown Butte's New World property.² We noted in a report last year that there was uncertainty about the property's fair market value, and the Congress subsequently required that it be appraised before it is acquired by the Secretary of Agriculture.³ According to the law's conference report, the appraisal must be done in compliance with federal appraisal standards and other applicable laws and regulations governing federal land acquisitions. According to the law, the appraisal must be reviewed by the Comptroller General within 30 days of receiving the appraisal from the Department of Agriculture and must be provided to the list of committees in the mandate. Separately, as Chairmen of the Subcommittees on Interior and Related Agencies, Senate and House Committees on Appropriations, you also requested that we do this work.

The Forest Service entered into a contract with an appraiser to determine the property's value as of the date of the agreement—August 1996—and expected the appraisal to be completed in early March 1998. This schedule was extended to allow time to review extensive additional information provided by the company—a task that the appraiser hired two subcontractors to do. After the appraisal was reviewed and approved by the Chief Appraiser of the Forest Service as meeting federal appraisal standards, and accepted by the Forest Service, it was forwarded to us on April 30, 1998.

The appraisal covers the mineral interests that Crown Butte owns and leases on private property in the Gallatin National Forest, totaling 101 separate mining parcels⁴ that cover about 1,625 acres. All of these parcels were mining claims that were patented under the Mining Law of 1872, which means the owners have title to the property and are entitled to use the surface and subsurface lands for any purpose. Of the 101 parcels, the company owns or has a part-ownership interest in 44 parcels covering about 694 acres, leases from an individual 47 parcels covering about 756 acres, and jointly owns with the same individual 10 parcels covering about 175 acres.

²Department of the Interior and Related Agencies Appropriations Act, 1998 (P.L. 105-83).

³Federal Land Management: Estimates of Value and Economic Effects of the New World Mine Project (GAO/RCED-97-232R, Sept. 9, 1997).

⁴These parcels are referred to in the appraisal report as patented mining claims.

The appraisal established a value for the property of \$69,076,000 as of August 12, 1996, the date of the agreement to acquire the property from Crown Butte. Under the terms of the agreement, Crown Butte was to acquire title to the 57 parcels owned in full or in part by the individual. Crown Butte was subsequently unable to do so and instead paid the owner to acquire a conservation easement for these lands. Under the terms of the conservation easement, the owner retains title to the property but is prevented from developing it for mining. The appraised value includes a reduction of about \$1 million to reflect this situation.

Appraisal Standards and Results

In its contract for the Crown Butte appraisal, the Forest Service instructed the appraiser to follow federal appraisal standards in valuing the property.⁵

These standards state that the government should appraise a property to be acquired at the fair market value. According to the standards, fair market value is the amount for which a property would be sold—for cash or its equivalent—by a willing and knowledgeable seller who is not obligated to sell to a willing and knowledgeable buyer with no obligation to buy. According to the Forest Service's Chief Appraiser, the appraisal of natural resources, particularly mineral deposits, is imprecise because measuring the extent of mineral deposits is difficult.⁶ Furthermore, he stated an appraised value can vary by 10 percent yet still reflect the market value of the property.

The standards provide for several methods of determining fair market value, including analyzing prior sales of comparable properties or of the property itself. While the standards indicate that the use of a sales comparison approach is normally the most accurate method, they also provide that property containing known minerals may be appraised using the income approach. The income approach involves estimating the value of a resource on the basis of the present value of anticipated future income from production, including income such as royalties (a percentage of the value of the minerals produced that is paid to the lease owner). Generally, the income method values the estimated future income stream

⁵Uniform Appraisal Standards for Federal Land Acquisitions, Interagency Land Acquisition Conference (1992) and Uniform Standards of Professional Appraisal Practice, The Appraisal Foundation (1998).

⁶The preferred method for measuring a mineral deposit is based on exploratory drilling, which provides a partial picture of the deposit. Extrapolations from this information are made as to the size of the deposit. This method was used on the New World property.

from a project and adjusts the value of this income stream to its value today by using a discount rate.⁷

In cases in which the government does not acquire a full property, but acquires only a piece of it, federal appraisal standards state the preferred way to value the partial property is to use a “before and after” method. In this method, the appraiser estimates the value of the whole property before the transaction and reduces it by the value of the property remaining in private ownership after the transaction is completed. The Forest Service’s instructions directed the appraiser to estimate a single value for the Crown Butte property, using a “before and after” method to account for the portion of the property remaining in private ownership under the conservation easement. As a result, the appraiser assumed that the use of the property before acquisition would have been mining and that the use of the private land left after the acquisition will be for recreational purposes such as cross-country skiing, hunting, and snowmobiling.

Estimate of Crown Butte Property’s Value

To determine the value of the property before acquisition, the appraiser estimated the fair market value of the property as required in federal standards, assuming it would be developed for the proposed mine. In establishing the fair market value, the appraiser considered four approaches—resulting in a range of values between \$70 million and \$79 million—but relied on two in making his final estimate: a sales comparison approach, as allowed under the federal appraisal standards, and a bulk sale discount approach, which the appraiser stated, and the Forest Service’s Chief Appraiser confirmed, is an income method developed specifically for mineral properties. The appraiser concluded, on the basis of the results of the two approaches, that the value before acquisition was \$72 million.

Under the sales comparison approach, the appraiser estimated the price paid per ounce of gold in other mine sales, including one prior sale of the New World property. He derived these estimates from sales prices and reserve estimates for the properties. He then applied the estimated prices per ounce for the prior sale of the New World property and the sale that he judged most comparable to the estimated reserves for the New World property to obtain an appraised value for this property. Under the bulk sale discount approach, the appraiser used data on prior sales to calculate

⁷A discount rate reflects the earning power of money over time and the risk associated with this earning. The choice of a discount rate is a key factor in determining net present value—in effect, the lower the discount rate, the higher the net present value of an asset.

for each the ratio of the sales price to the potential retail income from the estimated gold reserves on that property. He inferred from these ratios, particularly the ratio for the most comparable sale, a comparable ratio for the New World property. He then applied that ratio to the estimate of potential retail income from the New World property to estimate the likely sales price.

The appraiser then made two adjustments that reduced the \$72 million value to the appraised value of \$69,076,000. The first adjustment reflects a royalty interest owned by Kennecott Corporation for its interest in several claims. This money would have been paid from future income from the proposed mine. The appraiser discounted the proposed mine's projected cash flow and estimated the present value of the outstanding debt to be \$1,900,000. The second adjustment reflects the restrictions imposed by the conservation easement on the private lands. The appraiser assumed that 931 acres—those acres associated with property owned by the individual—would remain in private ownership and could be used only for recreational activities, in accordance with the terms of the easement. Accordingly, the appraiser identified comparable sales of land for recreational use and reduced the Crown Butte appraisal by \$1,024,000.

Key Assumptions Used

In estimating the fair market value of the proposed mine, the appraisal relied on several assumptions that could have tended to overstate the appraised value. In general, the need to make assumptions about key unknown factors increases the uncertainty associated with any estimate of appraised value. Although we have not determined the cumulative effect of relying on these assumptions, it appears to us that they would tend to increase the appraised value compared to the value that might have been obtained with different assumptions. The key assumptions made in the appraisal were that (1) mineral rights associated with the private property have no value because the conservation easement prevents mineral development; (2) the mine would have been issued permits to commence operations in a timely manner; (3) hazardous waste conditions would not affect the property's value; and (4) Crown Butte's revised estimate of gold reserves is valid.

Appraiser Assumed Mineral Rights on Private Property Have No Value

The "before and after" method used in the appraisal relied on the assumption that the mineral rights still attached to private property have no value because of the conservation easement. Specifically, the value before the transaction reflects full ownership of all mineral rights attached

to both the Crown Butte and private properties. The appraised value after the transaction includes an adjustment for the value of the property to remain in private ownership, including the mineral rights attached to that property, but assumes the value of the minerals would be zero. While the minerals' value may be decreased by the easement's restriction on development, at the same time, the private owner, not the government, retains rights to the minerals. Yet the appraised value was not decreased to reflect the value of this asset retained by the private owner. If the appraiser had included some value for the mineral rights to remain in private ownership, this would have increased the amount of the adjustment to the appraised value. For this reason, we believe the appraised value may be overstated. However, according to the appraiser, it was not possible to value the mineral rights retained with the private property without more potentially costly drilling information about the individual claims held by the private owner as compared with those held by Crown Butte.

**Government Assumed
Mine Operations Would
Have Been Issued Permits**

The appraisal also relied on the assumption that the New World mine would have received the required governmental permits and been able to commence operations in a timely manner—or, in the words of the appraisal, it assumed that permits were a “non-factor.” Mine operators are required to apply for and receive various permits prior to mining, including mine and water quality permits. In addition, the proposed mine would have been subject to environmental protection laws, which require an environmental impact statement (EIS) for such activities. According to a Forest Service official, at the time of the agreement, Crown Butte had submitted its mine development plan and permit applications for four of its five deposits, and they were expected to be approved. According to the official, an application to mine the fifth deposit also probably would have been approved if submitted. However, neither the permit process nor the EIS was finished at the time of the agreement and could have taken years. We believe the net present value of future income from the mine would have been lower if delays had occurred. If the appraiser had assumed, for example, a 1-year delay in obtaining permits, he would have obtained a lower appraised value.

**Government Assumed
Known Hazardous Waste
Would Not Affect Value**

A third assumption in the appraisal was that the known hazardous waste on the property would not affect its value. Prior to the 1996 agreement, a federal court decision held Crown Butte liable for Clean Water Act violations related to acidic runoff from historic mining operations on the

site. According to Department of Justice officials, a new owner of the property would be responsible for these conditions. The appraiser disclaimed responsibility for determining any problems associated with hazardous waste conditions that might exist on the property. He stated he could have included a value for such costs if one had been provided but emphasized that because the property was going to be developed as a mine, he would not have reduced the appraised value by the full amount of these costs. He stated that some of these costs would have been treated as a cost of doing business (operating costs). A Forest Service official stated the appraisal could not include speculations about the potential cleanup costs or the impact of these costs on the economic feasibility of the proposed mine and the value of the property. Since the responsibility for the hazardous waste conditions resides with the property's owner, the appraised value did not reflect the extent to which the value would be diminished by these conditions. But if the appraiser had been provided the amount of estimated costs to clean up the property, the appraised value could have been reduced by some amount.

Appraiser Assumed Crown Butte's Estimate of Gold Reserves Is Valid

Finally, the appraisal assumed that an updated estimate of gold reserves provided by Crown Butte was valid, even though the appraiser reported that the revised estimate used optimistic assumptions and unverified data. Crown Butte estimated a reserve level of 3,003,000 ounces of gold in the proposed mine, whereas earlier mining plans indicated reserves ranging from less than 700,000 ounces to about 1,600,000 ounces of gold. This difference results from Crown Butte's additional analysis of data from exploratory and development drilling, lower projected operating costs, and the inclusion of possible reserves. However, the appraiser's own analysis of the likely costs of operating a gold mine at the New World property suggests that a smaller figure for gold reserves should have been used for appraising the property. The appraiser told us that he used Crown Butte's estimate in the appraisal but that he adjusted the price per ounce of gold downward to account for the possible overstatement. However, we could not determine whether his adjustment counterbalanced the use of the overstated reserves.

Observations

In our review of the Crown Butte appraisal we did not identify areas in which the appraisal deviated from federal appraisal standards. The appraisal was based on several assumptions, however, and the need to rely on these assumptions increased the uncertainty of the appraised value. Although we could not determine how much the assumptions affected the

value, they tended to increase the value in comparison to the value that would have been estimated using different assumptions. However, given the imprecision involved with appraising mineral properties, we did not find that the use of these assumptions was unreasonable.

Agency Comments

We provided the Forest Service with a draft of this report for review and comment. In its comments, the Forest Service said that, overall, it concurred with the report. However, it expressed concern about the wording and possible misinterpretation of the assumption made by the appraiser that mineral rights for the portion of the Crown Butte property under a conservation easement have no value. Specifically, the Forest Service was concerned that the report gave the impression that the federal government may be paying for an interest in a property that has no value and that the conservation easement cannot effectively prevent mining. As stated in our draft report, the appraiser indicated he could not value the mineral rights retained with the private property without more potentially costly drilling information. It was not our intention to say this portion of the property has no value or that the conservation easement will not prevent mining. However, what we are pointing out is that if the government decides to remove the conservation easement and allow mining, the benefit would go to the owner of the mineral rights, not the government. (The Forest Service's comments are reproduced in app. I.)

Scope and Methodology

We reviewed the Uniform Appraisal Standards for Federal Land Acquisitions, issued in 1992 by the Interagency Land Acquisition Conference, as well as the Uniform Standards of Professional Appraisal Practice issued in 1998, to become familiar with federal appraisal standards, and we reviewed the appraisal itself, Crown Butte Mine New World Project: Complete Appraisal—Summary Appraisal Report, signed April 23, 1998, to become familiar with its methodology and data. We discussed both the standards and the appraisal with the Chief Appraiser and a field review appraiser of the Forest Service and the contract appraiser who conducted the appraisal. We interviewed an outside gold expert, officials with the Nature Conservancy, and other agency officials. We also met with the Department of Justice, which provided legal counsel to the Forest Service regarding the appraisal process.

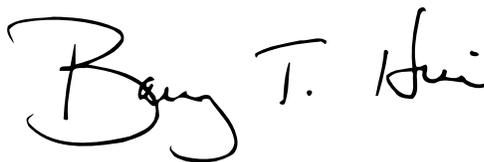
In a December 1997 letter to the Secretary of Agriculture, you recommended that the Department of Agriculture coordinate the appraisal process with us in advance of our receiving the final appraisal. While the

Chief Appraiser of the Forest Service did apprise us of the status of the appraisal process before we received the final appraisal on April 30, he declined to provide us any analyses or drafts of the appraisal before that date because this information was subject to review and change.

We performed our review in May 1998 (and did some preliminary work in January and February 1998) in accordance with generally accepted government auditing standards. We are sending copies of this report to the appropriate congressional committees, the Secretary of Agriculture, and other interested parties. We will also make copies available to others upon request.

If you or your staff have any questions, please call me on (202) 512-3841. Major contributors to this report were Jay Cherlow, Tim Guinane, Susan Iott, Diane Lund, Dick Kasdan, Mehrzad Nadji, Sue Naiberk, and Victor Rezendes.

Sincerely yours,

A handwritten signature in black ink that reads "Barry T. Hill". The signature is written in a cursive style with a large, looped initial "B".

Barry T. Hill
Associate Director, Energy,
Resources, and Science Issues

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Comments From the Forest Service



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Forest
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File Code: 1430

Date: MAY 26 1998

Subject: General Accounting Office Draft Report
Federal Land Management: Appraisal of Crown Butte Mine's New World Project

To: Barry T. Hill
Associate Director, Energy, Resources, and Science Issues
General Accounting Office

We have completed our review of the General Accounting Office(GAO) Official Draft Audit Report entitled Federal Land Management: Appraisal of Crown Butte Mine's New World Project, Report No. RCED-98-209, issued May 22, 1998. We concur with the audit findings and recommendations .

If you have any questions, please contact E.Lynn Burkett in our External Audit Liaison Group on (202) 205-0958.

MIKE DOMBECK
Chief

Enclosure

Enclosure 1

Audit Report No. RCED-98-209

United States Department of Agriculture
Forest Service

Office of Inspector General (OIG)
Federal Land Management: Appraisal of Crown Butte Mine's New World Project
May 22, 1998

Forest Service (FS) Review Comments
May 26, 1998

GENERAL COMMENTS CONCERNING THIS REPORT: Overall, we concur with the General Accounting Office (GAO) draft report, copies of which were transmitted to the Forest Service for review and comment before the report is issued in final form. We are encouraged to note that the GAO agrees that the appraisal was completed in full compliance with the "Uniform Appraisal Standards for Federal Land Acquisitions," and that the GAO also recognizes the inherent difficulties in appraising mineral properties and interests therein. Also, we appreciate the extra effort made by the GAO to complete this report in a timely manner which, in turn, will help expedite the final negotiations and successful closing of the President's August 12, 1996, Agreement.

Our primary comments relate to the wording and possible misinterpretation of the first of four key assumptions made during the appraisal process, and which are listed in the draft report. This assumption is first stated on Page 2 as "(1) mineral rights associated with a portion of the property under a conservation easement have no value." This statement is further repeated and discussed on pages 5 and 9 of the draft report.

The impression conveyed by this statement is that the Federal Government may be paying a considerable amount of money (up to \$65 million) for the Crown Butte mining interests, which would include acquiring an interest in a property that has no value. Also, one is left with the impression that somehow the conservation easement being acquired by the United States cannot effectively prevent mining, thereby giving the mineral estate some residual value, even though it cannot be developed.

We recommend that the GAO delete this assumption, as worded. Instead, we would advocate that the report simply state that the Federal Government is not acquiring the mineral interests on a portion of the property. These specific mineral rights are being retained in private ownership and cannot be developed unless and until a Federal statute is enacted specifically authorizing mining of this particular property.

In addition, the individual who owns these interests has agreed, through conveyance of a conservation easement to the United States, that neither she nor her heirs or assigns will develop their mineral interests until such time as the aforementioned statute is enacted. Therefore, the appraiser, in using the "before and after" approach, correctly estimates the full value of the unified or unitized mineral estate in the "before" estimates, and assigned no residual value to the mineral rights in the "after" estimates. The highest economic use of the land (mining) was therefore reduced (to that of recreation) by virtue of the imposition of the easement.

Appendix I
Comments From the Forest Service

Enclosure 1

Audit Report No. RCED-98-209

Also, it should be noted that the Forest Service has had considerable experience in appraising, acquiring, and managing lands subject to conservation easements. These easements are typically acquired in situations similar to those involving the Crown Butte properties where the Federal Government and the public wish to prevent various forms of development that would negatively impact major Federal interests. Easements between a willing buyer and a willing seller can effectively prevent development, such as along wild and scenic river corridors, while leaving other rights in private ownership, such as timber harvesting, hunting, and other recreational opportunities.

Thank you for allowing the Forest Service the opportunity to review and comment on the draft report. If you should have additional questions, please contact David M. Sherman of the Forest Service Lands Staff on (202) 205-1362.

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