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MINING LAW: ANNUAL ASSESSMENT WORK, NEW DIRECTIONS; THE NEED TO INCLUDE ANTIQUITIES SURVEYS*

BACKGROUND AND INTRODUCTION

The mention of mining in the western United States evokes the image of a grizzled prospector setting out with his burro across an arid wasteland to stake his claim. His only tools for exploration are pick and shovel, the same ones he will use to develop the claim. He will not use any mechanical or scientific aids for discovery, only visual examination of specimens. This method of developing the vast resources of the West is picturesque, but it is clearly outdated.

Today, mineral exploration and development make use of all available technology. Preliminary exploration for mineral resources is performed by aerial survey¹ and geologic map analysis.² Further exploration techniques such as core drilling,³ borehole logging,⁴ and geochemical⁵ and geophysical surveys⁶ are conducted on the land. When onsite exploration begins, and in some instances before it begins,⁷ the mining company must comply with numerous state and federal regulations.⁸ While these requirements vary depending on the

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1. Aerial surveys are used in uranium mining. A Geiger or scintillation counter, in combination with a computer, is used to calculate the radiation in the area and evaluate the amount of uranium present.

2. Geologists, starting with maps of known formations, trace those formations to other areas likely to contain previously unknown resources.

3. Core drilling retrieves a solid cylinder of rock used for study and sample analysis.

4. Numerous holes are drilled in a test area. A calibrated crystalline scintillation counter is then lowered into the holes and data is fed into a computer, which produces a profile of the ore body's thickness and expanse.

5. A geochemical survey utilizes chemistry in the search and discovery of mineral deposits. 30 U.S.C. § 28-2(b) (1976).

6. A geophysical survey uses electronic equipment and other methods to measure physical differences between rock types and discontinuities in geological formations. 30 U.S.C. § 28-2(c) (1976).

7. N.M. STAT. ANN. § 19-9-1 (1978) requires a permit be obtained for exclusive right to prospect for coal on state lands, prior to any physical exploration of the land.

8. These include permits for exploration (N.M. STAT. ANN. § 19-9-1 (1978)), Antiquities Surveys (16 U.S.C. § § 432-33 (1976)), Environmental Impact Statements (NEPA of 1969, 42 U.S.C. § 4332 (1976)) and marking the boundaries of the claim (30 U.S.C. § 28 (1976) and N.M. STAT. ANN. § 69-3-1 (1978)).

mineral being developed or claimed,⁹ most claims require annual assessment work.¹⁰ An Environmental Impact Statement must be prepared before ground work is performed.¹¹ Additionally, if a claim is on federal land, an antiquities survey must be performed before the ground is disturbed.¹² This comment will focus on the antiquities survey requirement, discussing the positive social impact of allowing such a survey to qualify as the required annual assessment work.

HISTORY AND STATUTORY PROVISIONS

The law governing mining on public lands was passed by Congress in 1872.¹³ Its purpose was to provide uniform regulation of mining and to promote the development and extraction of minerals.¹⁴ To assure development and prevent lands from being held in unworked claims, the Mining Act of 1872 required annual assessment work. The claimant was required to perform "not less than \$100.00 worth of labor . . . or improvements" on each claim every year.¹⁵

If satisfactory completion of the annual assessment work is questioned in a claim dispute, the court is the final interpreter of the broad language in the federal act.¹⁶ Congress itself did nothing to clarify the meaning of the act until 1958, when it was amended to make it clear that specific kinds of scientific activity would qualify as annual assessment work.¹⁷

In addition to the Mining Act, a miner operating on federal land must also comply with the Antiquities Act.¹⁸ Passed in 1906, the Antiquities Act was the culmination of the expression of public con-

9. For coal, the requirements are codified at N.M. STAT. ANN. §§ 19-9-1 to 19-9-8 (1978). For other minerals (except oil and gas), the requirements are codified at N.M. STAT. ANN. §§ 69-3-1 to 69-3-32 (1978).

10. 30 U.S.C. § 28 (1976) and N.M. STAT. ANN. § 69-3-16 (1978).

11. NEPA of 1969, 42 U.S.C. § 4332 (1976).

12. Antiquities Act of 1906, 18 U.S.C. §§ 432-33 (1976).

13. Mining Act of 1872, 30 U.S.C. § 28 (1976).

14. 1 C. H. LINDLEY, AMERICAN LAW RELATING TO MINES AND MINERAL LANDS § 68 (3rd ed. 1914).

15. 30 U.S.C. § 28 (1976). Exactly what qualified for annual assessment work was to be decided in each mining district, by regulations promulgated by the miners of that district.

16. 2 ROCKY MT. MINERAL L. FOUND., AMERICAN LAW OF MINING § 7.22 (1979).

17. 30 U.S.C. § 2801 (1976). The amendment stated that "the term 'labor' . . . shall include, without being limited to, geological, geochemical, and geophysical surveys conducted by qualified experts." All other work, even that required by other federal laws, is not specifically included and qualification for inclusion must be determined on a case by case basis. This includes such laws as the National Environmental Policy Act of 1969 (42 U.S.C. §§ 4321-4361 (1976)) which requires an Environmental Impact Statement or Environmental Assessment, and the Surface Mining Control and Reclamation Act of 1977 (30 U.S.C. § 1201 (1976)) which requires reclamation of mined areas.

18. 16 U.S.C. §§ 432-33 (1976).

cern for protecting cultural resources located on public land,¹⁹ with the Senate Committee on Public Lands unanimously recommending its passage.²⁰ Their decision was supported by testimony and letters urging passage from institutions of higher learning such as Yale University,²¹ the University of Michigan,²² and the University of California.²³ The Smithsonian Institution²⁴ and the Peabody Museum,²⁵ as well as numerous historical societies and the Archaeological Institute of America,²⁶ also pressed for its passage.

The Antiquities Act provides that any person who shall "appropriate, excavate, injure, or destroy any historic or prehistoric ruin or monument, or any object of antiquity, situated on lands owned or controlled by the Government of the United States, without the permission of the Secretary of the Department of the Government having jurisdiction over the lands" is subject to fine and imprisonment.²⁷ Permits to do archaeological exploration are issued by the Secretary of Agriculture for lands within forest reserves,²⁸ by the Secretary of the Army for land within military reservations,²⁹ and by the Secretary of the Interior for all other lands owned or controlled by the government.³⁰ The majority of permits are issued by the Department of the Interior.³¹ While individuals may not obtain permits

19. H.R. REP. NO. 2224, 59th Cong., 1st Sess. 1 (1906).

20. S. REP. NO. 3797, 58th Cong., 2nd Sess. 14 (1904).

21. S. DOC. NO. 314, 58th Cong., 2nd Sess. 1 (1904).

22. *Id.* at 3.

23. *Id.* at 11.

24. H.R. REP. NO. 2224, 59th Cong., 1st Sess. 2 (1906).

25. *Id.*

26. S. DOC. NO. 314, 59th Cong., 1st Sess. 3 (1906).

27. 16 U.S.C. § § 432-33 (1976). Permission to examine or excavate archaeological sites is given by permit. The statute provides that:

Permits for the examination of ruins, the excavation of archaeological sites, and the gathering of objects of antiquity upon the lands under their respective jurisdictions may be granted by the Secretaries of the Interior, Agriculture, and War [Army] to Institutions which they may deem properly qualified to conduct such examination, excavation, or gathering subject to such rules and regulations as they may prescribe: Provided, That the examinations, excavations, and gatherings are undertaken for the benefit of reputable museums, universities, colleges, or other recognized scientific or educational institutions, with a view to increasing the knowledge of such objects, and that the gatherings shall be made for permanent preservation in public museums. The Secretaries of the departments aforesaid shall make and publish from time to time uniform rules and regulations for the purpose of carrying out the provisions of this Act. (16 U.S.C. § 432).

28. 43 C.F.R. § 3.1 (1979).

29. *Id.*

30. *Id.*

31. Most land open to mining in the United States is under the control of the Department of Interior. All three agencies require that a written report on the survey findings be filed. (43 C.F.R. § 3.10 (1979)).

to do archaeological surveys, the phrase "scientific institutions," as used in the statute and the promulgated regulations,³² has been interpreted to include salvage archaeology firms. Individuals may obtain permits through such firms to act as their agent in doing survey work.³³

CASE LAW

While the Antiquities Act has been in force for more than 70 years, there is little case law interpreting it. Most of the cases do not interpret the Antiquities Act with respect to mining law, but demonstrate that the law cannot be ignored by companies or individuals engaging in mining explorations. In *United States v. Diaz*³⁴ a United States magistrate found the defendant guilty of appropriating Indian artifacts from a cave on government land in Arizona. Disturbance of the site itself was not at issue. The district court, acting in the capacity of an appellate court, affirmed, stating that the objects in question, although less than five years old, were objects of antiquity within the statute because they were part of ancient religious rituals of the Apaches.³⁵ The Ninth Circuit Court of Appeals reversed, holding the Antiquities Act unconstitutionally vague, since the terms "ruin," "monument," and "object of antiquity" were not defined and were of uncommon usage.³⁶

In contrast, in the tenth circuit, a conviction under the Antiquities Act was upheld. In *United States v. Smyer*,³⁷ two individuals were convicted of the unauthorized excavation of a Mimbres site in the Gila National Forest in New Mexico. The district court held that the terms "antiquity," and "ruin," when measured by common understanding and practice, conveyed a sufficiently definite warning to the defendants of the proscribed conduct.³⁸ The tenth circuit, while noting *United States v. Diaz*, "respectfully disagreed" with the ninth circuit's opinion of the statute's vagueness.³⁹

In another ninth circuit case, *United States v. Jones*,⁴⁰ three individuals were charged with theft and depredation of government prop-

32. 43 C.F.R. § 313 (1978).

33. Interview with R. Morrison, Archaeologist, Bureau of Land Management (Jan. 14, 1980).

34. 368 F. Supp. 856 (D. Ariz. 1973).

35. *Id.* at 858.

36. *United States v. Diaz*, 499 F.2d 113, 115 (9th Cir. 1974).

37. 596 F.2d 939 (10th Cir. 1979).

38. *Id.* at 941. The ruin where defendants Smyer and May were digging was posted as being protected by the Antiquities Act.

39. *Id.*

40. 449 F. Supp. 42 (D. Ariz. 1978).

erty, under statutes other than the Antiquities Act, after allegedly being seen digging among Indian ruins in a national forest. The U.S. district court dismissed the indictment, holding that the legislative history of the Antiquities Act indicated that the act is the exclusive means by which the government could prosecute the alleged conduct.⁴¹ Since *United States v. Diaz* had rendered the act unconstitutionally vague, the result was a "hiatus which the Congress should correct by appropriate legislation."⁴² The ninth circuit, while reaffirming its decision in *United States v. Diaz*, reversed the district court's opinion concerning the exclusivity of the Antiquities Act, and held that the prosecutions could be sought under the more general theft and depredation statutes.⁴³ This ruling at least partially filled the void left by *United States v. Diaz* and provided government prosecutors with a means of protecting archaeological sites located on government land.⁴⁴

In *Warm Springs Dam Task Force v. Gribble* a federal district court in California discussed the interaction between the Antiquities Act and other federal laws.⁴⁵ The adequacy of an Environmental Impact Statement for a proposed dam and reservoir was challenged.⁴⁶ The plaintiffs had alleged *inter alia* that the archaeological survey section of the EIS was deficient.⁴⁷ Plaintiffs sought a preliminary injunction against the dam,⁴⁸ and an order mandating an archaeological survey sufficient to protect all the sites in the area.⁴⁹ While stating that an archaeological survey should be included as part of the EIS, the court denied the request for a separate archaeological survey of the area.⁵⁰ This decision held the Corps of Engineers responsible only for known or suspected sites in the area,⁵¹ leaving it free to disturb or destroy sites not included in the EIS.

The New Mexico trial court case of *E. J. Hammon v. Founders of*

41. *Id.* at 46.

42. *Id.*

43. 607 F.2d 269, 273 (9th Cir. 1979).

44. *Id.* at 273. In *Treasure Salvors v. Unidentified, Wrecked, Etc.*, 569 F.2d 330 (5th Cir. 1978), the fifth circuit held that the United States did not own a wrecked vessel located outside the territorial waters of the U.S. Thus the Antiquities Act did not apply and a permit was not necessary to perform salvage work on the vessel. The court also modified the decision of the district court and determined that the district court had no jurisdiction to determine the parties' rights in the vessel, thought to be the Nuestra Senora de Atocha.

45. 378 F. Supp. 240 (N.D. Cal. 1974).

46. *Id.* at 242.

47. *Id.* at 248.

48. *Id.* at 242.

49. *Id.* at 248.

50. *Id.* at 251.

51. *Id.* at 251.

*America Investment Corp.*⁵² squarely presented the question whether money expended to comply with the Antiquities Act may count toward the annual assessment requirement. This case, as most cases seeking to determine the validity of annual assessment work, arose from an attempt to forfeit out certain co-owners who failed to perform their share of the annual assessment work.⁵³ The complaining owners, the Herringtons, demanded payment of their share from the defaulting parties. The demand was ignored and the Herringtons published a forfeiture notice. The notice informed the defaulting parties that failure to provide reimbursement would forfeit the interest in their claims to the Herringtons. In subsequent litigation, the validity of the Herringtons' assessment work became the central issue.

The trial court found that the Herringtons had performed more than \$11,000 of annual assessment work on 112 claims.⁵⁴ This amount included \$6,000 in archaeological site surveys, as well as geologic assessment of the area. Expert witnesses testified at the trial that the area of the claims was an archaeologically sensitive area, and drilling or mining activity would not be proper without Bureau of Land Management approval. Further, to conduct such activity without this approval would violate the criminal provision of the Antiquities Act.

An expert witness from the Bureau of Land Management testified that not only was the survey necessary before mining operations in the area could begin, but a permit to do the survey was also necessary. Regulations require that as part of the permit process a report on the findings of the survey be submitted to the Department of Interior.⁵⁵ The Bureau of Land Management expert further testified that the surveys in question had been conducted by a qualified expert, and the required report had been submitted. In spite of this testimony, the court ruled that antiquities surveys did not qualify as annual assessment work, reasoning that the survey did not directly tend to facilitate extraction of minerals from the ground.⁵⁶ In so holding, the state court ignored federal case law that other statutory requirements, such as an Environmental Impact Statement, could satisfy the annual assessment requirement.⁵⁷ *E. J. Hammon v. Founders*

52. No. CV-77-088 (N.M. Dist. Ct., filed May 23, 1977).

53. See 30 U.S.C. § 28 (1976).

54. *E. J. Hammon v. Founders of America Inv. Corp.*, No. CV-77-088 (Memorandum opinion issued Nov. 5, 1978).

55. 43 C.F.R. § 3.10 (1979).

56. *E. J. Hammon v. Founders of America Inv. Corp.*, No. CV-77-088 (Memorandum opinion issued Nov. 5, 1978).

57. See *Manygoats v. Kleppe*, 558 F.2d 556, 560 (10th Cir. 1977).

of *America Investment Corp.* was not appealed, and the law in this area remains unclear.

The arguments of the Herringtons that expenditures for bona fide archaeological work on a mining claim should count as assessment work are persuasive. As mining operations have changed from the use of picks and shovels to the use of power equipment, the law has changed also.⁵⁸ Early case law required that annual labor be performed solely on the claim or on contiguous claims.⁵⁹ Even these early cases, however, recognized the need to count labor other than actual mining as annual assessment work. Thus, clearing the claim of brush, timber, and debris counted for annual labor.⁶⁰ The impetus for this could have been to prevent possible criminal prosecution of miners. Maintaining a fire hazard may have been a crime and brush clearing would avoid it. Similarly, brush clearing would avoid the accidental destruction of claim markers, which is a statutory crime.⁶¹

Later case law formulated the rule that annual labor "must be of such a character as directly tends to develop and protect the claim and facilitate the extraction of minerals."⁶² This rule was later broadened so that work on access roads to the claim qualified as annual assessment work.⁶³ Access for equipment was not an issue for early miners, but today it is a necessity because of the size of power equipment used in mining.

Preservation of antiquities sites also has changed. The antiquities law was originally passed in order to protect large, known sites from looting.⁶⁴ Thus only educational and scientific institutions could obtain permits to conduct surveys.⁶⁵ Now the historic value of even small sites has been recognized and is protected by the availability of survey permits to salvage archaeology firms.⁶⁶ While small sites are also protected by the criminal provisions of the act,⁶⁷ further protection for these valuable resource areas would be provided by allowing antiquities surveys to qualify as annual assessment work. The fed-

58. Although no specific criteria have been set by case decisions on what qualifies for annual assessment work, the historic guidelines are that the work must be done in good faith, and that it must tend to develop the claim and facilitate the extraction of minerals. Each mining district has been left to define the meaning of these guidelines for itself.

59. *Smelting Co. v. Kemp*, 104 U.S. 636, 655 (1881).

60. *Richen v. Davis*, 76 Ore. 311, 148 P. 1130 (1915).

61. See N.M. STAT. ANN. § 69-3-13 (1978).

62. *Golden Giant Mining Co. v. Hill*, 27 N.M. 124, 198 P. 276 (1929).

63. *Pinkerton v. More*, 66 N.M. 11, 390 P.2d 844 (1959).

64. H.R. REP. NO. 2224, 59th Cong., 1st Sess. 1 (1906).

65. See 16 U.S.C. § 432 (1976).

66. Conversation with R. Morrison, Archeologist, Bureau of Land Management (Jan. 14, 1980).

67. 16 U.S.C. § 432 (1976).

eral law specifically states that annual assessment work shall include, but shall not be limited to, geologic, geophysical, and geochemical surveys, which must be performed on the ground.^{6 8} A logical extension of this law would be to accept other surveys performed on the ground.

Antiquities surveys must be performed on the ground by a qualified expert.^{6 9} The surveyor must examine the entire surface area of the claim to discover archaeological sites. A written report on the findings must then be submitted to the federal agency in charge of the land.^{7 0} These requirements mirror those of the geologic, geophysical, and geochemical surveys which must also be performed by a qualified expert, who must conduct his survey on the ground and submit a written report to the appropriate federal agency.^{7 1}

The antiquities survey has a further requirement for miners that is more compelling than the performance of the geologic, geochemical, and geophysical surveys. The failure to perform the antiquities survey can result in criminal prosecution.^{7 2} This sanction, when added to the requirements of the Antiquities Act, readily supports accepting these surveys as annual assessment work. These surveys should be allowed to qualify as annual assessment work since they perform the valuable function of informing miners of the possible existence of protected sites in the area. Miners are thus shown where they may not drill or dig. If credit can be given for the survey as assessment work, the goals of both the Antiquities Act and the Mining Act will be furthered. Antiquities will be protected and minerals will be developed at a cost reflecting the need for antiquities protection. Disallowance of the surveys will encourage miners to ignore the act and simply bulldoze sites. In addition, if the combined cost of the annual assessment work and antiquities surveys were high, miners might forego development of the minerals.

CONCLUSION

Congress has clearly set forth a policy of protecting America's archaeological heritage. The policies in the Antiquities Act, passed early in this century, have not been forgotten, but augmented. An additional law requires the preservation of historical and archaeological data which is threatened by dam construction or other alterations

68. 30 U.S.C. § 28-1 (1976).

69. 16 U.S.C. § 432 (1976).

70. 43 C.F.R. § 3.1 (1979).

71. 30 U.S.C. § 28-1 (1976).

72. 16 U.S.C. § 432 (1976).

in terrain.⁷³ This law, on its face, protects data in areas which will be altered by the development of federal coal leases as well as dams.⁷⁴ A survey, as well as recovery, preservation, and protection of historical and archaeological artifacts is required.⁷⁵ This law indicates current congressional concern for preservation of our natural resources, and serves to reinforce the important policy considerations for giving credit for antiquities surveys as annual assessment work. To disallow this credit will frustrate the congressional intention of preserving America's past and result in the loss of an irreplaceable part of our heritage.

ALEXANDRA ZAVELLE LEVINE

73. 16 U.S.C. § 469 (Supp. I 1977).

74. *Id.*

75. 16 U.S.C. § 469a-1 (1976).