UNITED STATES DISTRICT COURT

FOR THE DISTRICT OF NEW MEXICO

CHEVRON MINING INC.,

Plaintiff/Counter-Defendant,

vs.

UNITED STATES OF AMERICA, UNITED STATES DEPARTMENT OF THE INTERIOR, UNITED STATES DEPARTMENT OF AGRICULTURE,

Defendants/Counter-Claimants.

No. 1:13-cv-00328-PJK-JFR

FINDINGS OF FACT AND CONCLUSIONS OF LAW

This case concerns the operation of a molybdenum mine near Questa, New Mexico by the predecessor in interest of Plaintiff/Counter-Defendant Chevron Mining Inc. (Chevron) — Molycorp, Inc. (Molycorp) — from 1919 to 2014. Chevron asserted claims under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) against the government for cost recovery, contribution, and a declaratory judgment related to the remediation of waste generated by the mine. Am. Compl. at 30–33 (ECF No. 32). The United States asserted counterclaims for contribution, contractual indemnification, and a declaratory judgment. Am. Countercls. at 8–10 (ECF No. 140).

In 2013, this court bifurcated proceedings into two phases: (1) a phase to resolve

the liability of the United States; and (2) if needed, an equitable allocation phase.[1] ECF No. 34, at 3. In 2015, this court granted summary judgment for the government holding that it was not liable under CERCLA either as a past owner or arranger. Chevron Mining Inc. v. United States, 139 F. Supp. 3d 1261, 1282 (D.N.M. 2015). On appeal, the Tenth Circuit affirmed in part and reversed in part, holding that although not liable as an arranger, the government is strictly liable for its share of equitably allocated response costs as a past owner. Chevron Mining Inc. v. United States, 863 F.3d 1261, 1278, 1283–84 (10th Cir. 2017). In so ruling, the Tenth Circuit noted that "CERCLA is remedial legislation, [and] it should be construed liberally to carry out its purpose." Id. at 1269 (quoting Atl. Richfield Co. v. Am. Airlines, Inc., 98 F.3d 564, 570 (10th Cir. 1996)). The case was remanded to determine the United States' equitable share of the clean-up costs, if any, of the Questa Mine Superfund Site (Questa Site). Id. at 1266. The Environmental Protection Agency (EPA) estimates that the clean-up costs will total slightly over $1 billion. ECF No. 215, at 2.

The parties agreed to certain pre-trial procedures including the submission of written direct testimony and the admission of exhibits cited therein. See ECF No. 221, at 2–4. The parties also agreed to live cross-examination and redirect at a bench trial. See ECF No. 249, at 4–5. The bench trial in this phase of the case was held on March 14–16, 2022, and April 21, 2022. See ECF Nos. 288–91 (Trial Transcripts). Based on the parties' stipulations and written submissions, the evidence presented at trial, and the

[1] The parties have agreed to defer cost documentation issues to a later phase of this litigation. See ECF No. 223-9, at 2; ECF No. 189, at 3; ECF No. 135, at 4.

deposition testimony designated by the parties, the court makes the following findings of fact and conclusions of law.

I. FINDINGS OF FACT

A. Stipulations

1. Chevron has admitted its CERCLA liability at the Questa Site as an owner, operator, and arranger. Am. Compl. at 3 (ECF No. 32). The United States is a potentially responsible party (PRP) as an owner under CERCLA and is strictly liable as a matter of law for an equitable allocation of the eligible response costs. Chevron Mining, 863 F.3d at 1266.

2. Chevron has incurred "some" response costs for purposes of this CERCLA allocation determination. See ECF No. 223-9, at 2.

3. Chevron and its predecessors have cooperated with the EPA in the cleanup effort ordered and directed by the EPA. ECF No. 160, at 1.

4. Chevron and its predecessors have not violated any then-applicable environmental standard of care or acted in disregard of any then-applicable environmental statute, regulation, or standard during the operation of the Questa Mine. ECF No. 160, at 1–2.

5. The parties have agreed and stipulated that Chevron will not seek to allocate any percentage of costs required to remediate any release of hazardous substances from or in the tailings pipelines or the Eastern Tailings Pond. ECF No. 185, at 1; see also USX 020 at 5 (Special Use Permit including indemnity clause for the United States).

B. The First Underground Mine (1919–1957)

6. Molybdenum was first discovered at the Questa Site in 1916, and the first mining claims were located by R&S Molybdenum Company in 1918. Fredley Direct at 27 (ECF No. 256-4); Quivik Direct ¶ 87 (ECF No. 255-1).

7. In 1919, molybdenum production began, and in 1920 Molycorp acquired R&S Molybdenum Company. Fredley Direct at 27.

8. Molycorp patented its first mining claims at the Questa Site in 1922. Fredley Direct at 28. Thus, Molycorp obtained fee title to the land used in connection with the First Underground Mine. Quivik Direct ¶ 87.

9. This original mining operation consisted of an underground mine that pursued veins of high-grade molybdenum. Fredley Direct at 28.

10. The known veins of high-grade molybdenum were exhausted by 1956, and the First Underground Mine closed in 1957. Fredley Direct at 28.

11. The United States was not actively involved in the development of the First Underground Mine. Quivik Direct ¶ 11.

12. The First Underground Mine generated approximately 150,000 tons of waste rock. Quivik Direct ¶ 93; USX 477, at 1.

C. The Exploration Program (1954–1964)

1. Molycorp's Application for a DMEA Loan

13. In 1954–1955, molybdenum production began to slow dramatically. Rigby Direct at 14 (ECF No. 223-2); CX 416. Molycorp managers were convinced that there was more high-grade ore at the Questa Site, so they began their own exploration

program. Fredley Direct at 28–29; CX 046.

14. This exploration program utilized the same mining techniques as the First Underground Mine, which included drifting and cross cutting. Fredley Direct at 29; Rigby Direct at 14–15.

15. After its exploration program failed to discover any additional high-grade ore veins, Molycorp applied for financial assistance from the Defense Minerals Exploration Administration (DMEA) in 1956. Fredley Direct at 29; Rigby Direct at 16; see CX 046.

16. The DMEA was established to encourage mining companies to explore for valuable minerals that could supply the United States with minerals deemed critical for national defense. Quivik Direct ¶ 101.

17. Molybdenum was one such mineral deemed critical for national defense. See Cryderman Direct at 11 (ECF No. 223-4); Brigham Direct ¶ 16 (ECF No. 255-3).

18. Molycorp's initial loan application to the DMEA proposed more underground tunneling for high-grade molybdenum veins. Fredley Direct at 30; Dewey Direct at 22 (ECF No. 256-3); Trial Tr. at 235:7–21 (Rigby Redirect); CX 046.

19. Molycorp's application stated that as of December 1956, "no production is forthcoming . . . and no ore reserves are considered available. Also, no other exploration work is, for the present[,] planned." CX 046, at 6.

20. Upon review of Molycorp's loan application, the DMEA found that its proposal to look for more high-grade veins "was not based on known geologic data

and was therefore not warranted in its entirety." CX 048, at 6; Fredley Direct at 31; Rigby Direct at 17–18; Trial Tr. at 236:6–19 (Rigby Redirect).

21. However, the DMEA noted "[t]he strategic importance of molybdenum and the limited known commercial deposits," and recommended that a Field Team consisting of a U.S. Geological Survey Geologist and a U.S. Bureau of Mines Mining Engineer be sent to the Questa Site to further assess the viability of the proposal. CX 048, at 10; DMEA Dep. at 209:1–20 (ECF No. 256-2); Fredley Direct at 31; Rigby Direct at 18, 22; see also CX 054.

22. The DMEA Field Team visited the Questa Site on December 14, 1956. It recommended looking for low-grade molybdenum because it "believe[d], from the evidence seen during the mine inspection, that a large and significant body of low-grade molybdenite may be present." Fredley Direct at 32; Rigby Direct at 19; CX 048, at 7.

23. Ultimately, the DMEA recommended that Molycorp pursue this low-grade ore body through diamond drilling and location-specific channel sampling, two techniques not previously used at the Questa Site in its exploration efforts. Fredley Direct at 32–34; Rigby Direct at 18–19; Dewey Direct at 22; Trial Tr. at 137:18–138:3 (Dewey Redirect), 228:15–25, 230:12–20 (Rigby Redirect), 354:11–14 (Fredley Redirect), 520:3–23 (Quivik Cross); CX 048, at 7; CX 054.

24. The DMEA knew that a low-grade ore body could only be recovered through open pit mining techniques that would generate significantly more waste than underground mining techniques. Fredley Direct at 52–53; Rigby Direct at 28; Dewey

Direct at 12, 24; Trial Tr. at 193:19–195:2 (Rigby Cross), 522:22–523:3 (Quivik Cross).

25. The DMEA provided a detailed "alternate program" to Molycorp at a meeting held on January 18, 1957. CX 054, at 33, 49–54. It acknowledged that Molycorp "may not desire to participate in an exploration project to search for large bodies of ore of lower grade than have been previously mined, because it would require a considerable capital outlay to expand the mine and surface plant." CX 048, at 4; see Rigby Direct at 20.

26. Molycorp initially rejected the DMEA's recommendation to drill for low-grade ore because it was skeptical that a low-grade ore body existed. Fredley Direct at 34–35; CX 054, at 33–35.

27. On February 11, 1957, Molycorp voluntarily submitted a revised application that incorporated elements of its original plan and the DMEA's recommendations, which the DMEA ultimately accepted. Fredley Direct at 35; Rigby Direct at 21; CX 054, at 36.

28. On May 31, 1957, the DMEA and Molycorp entered into an exploration project contract in which the government agreed to contribute half of the expenditures for certain exploration on both Molycorp's private lands and federal lands subject to Molycorp's unpatented mining claims, up to a contribution of $255,250. CX 056, at 15; Considine Direct at 11 (ECF No. 223-6); Fredley Direct at 36–38.

29. If a mineral discovery that resulted in production occurred from the exploration contract work, the federal government was entitled to royalties as

repayment of the initial loan without interest. CX 056, at 17. If no mineral discovery that resulted in production occurred, Molycorp did not need to pay back the initial loan. CX 089, at 16; Trial Tr. at 172:15–19 (Rigby Cross). If Molycorp did discover a major ore body, it was not required to mine it. CX 056, at 18; Trial Tr. at 172:9–14 (Rigby Cross). These terms were much more favorable than a commercial loan. Fredley Direct at 38; Trial Tr. at 487:22–488:21 (Quivik Cross).

30. The DMEA was not required to accept Molycorp's revised proposal. Its decision to support the proposed exploration at the Questa Site was discretionary. Fredley Direct at 35–36.

2. The DMEA Exploration Program (1957–1960)

31. Molycorp performed all of the exploration work identified in the DMEA Contract. See CX 056, at 16.

32. The United States actively oversaw Molycorp's exploration activity throughout the DMEA Contract. DMEA Dep. at 211:2–15. The contract specified that "[t]he location, direction, inclination, extent, and methods of sampling the work under the contract are subject to Government approval." CX 056, at 23; see Rigby Direct at 23.

33. On several occasions, Molycorp requested changes to the DMEA Contract's conditions such as drill hole locations and sampling methods. The DMEA sometimes denied and sometimes approved the change requests, evidencing the control it had over the exploration at the Questa Site. Fredley Direct at 39–40; CX 059; CX 091; CX 092; CX 097; CX 098; CX 372.

34. DMEA experts reviewed Molycorp's mandatory monthly reports and visited the Questa Site on at least 30 occasions to oversee exploration activity and provide technical advice. Fredley Direct at 37, 40–41; Rigby Direct at 23–24; DMEA Dep. at 74:11–75:2; CX 056, at 16; CX 089, at 17. DMEA experts also provided their expertise and advice free of charge. DMEA Dep. at 74:1–8; CX 039, at 5; Trial Tr. at 113:10–16 (Dewey Cross), 380:15–25 (Considine Cross).

35. Not all of Molycorp's exploration work at the Questa Site was performed under the DMEA Contract. Molycorp expended $400,679.14 in reimbursable costs on exploration at this time, of which the DMEA contributed $200,339.57. CX 108, at 6; Quivik Direct ¶ 15.

36. Between 1957 and 1960, Molycorp spent over $1.19 million on exploration efforts. USX 003, at 17; Trial Tr. at 373:21–374:1 (Considine Cross).

37. In 1957, Molycorp issued a $4.19 million stock subscription to raise money for further development and exploration. CX 063, at 4. The prospectus described the DMEA Contract in detail as support for investors. Rigby Direct at 27; Trial Tr. at 186:25–187:14 (Rigby Cross).

38. The technical and financial support of the DMEA was a critical factor in further exploration at the Questa Site, without which further exploration probably would not have occurred. Rigby Direct at 16–17; Trial Tr. at 237:1–6 (Rigby Redirect); see Considine Direct at 11; Fredley Direct at 30; Dewey Direct at 19. The court bases this on the documentary evidence as well as the testimony.

3. Certification and Transition to Mining Activity (1961–1964)

39. The DMEA Contract was terminated on June 30, 1960. CX 131, at 22; CX 107, at 3.

40. On October 8, 1960, Molycorp issued its final report on the DMEA exploration program. CX 107, at 3. Molycorp performed 5,979 feet of exploration work with private funding and 5,777 feet of exploration work that was reimbursable through the DMEA Contract. Quivik Direct ¶¶ 116, 120; CX 107, at 6–7; Trial Tr. at 598:22–599:5 (Quivik Redirect).

41. Molycorp's final report concluded that there had been a discovery of a large, low-grade ore body consisting of three blocks that might contain commercially recoverable ore. More exploration was required to define the ore body. Quivik Direct ¶ 116; Fredley Direct at 41–42; CX 107, at 7–9.

42. In December 1960, the DMEA issued its final report on the Questa Site exploration. The report concluded that "[r]eserves of molybdenum-bearing rock [were] discovered as a result of DMEA and [Molycorp] exploration completed during the life of the contract." CX 108, at 6; DMEA Dep. at 257:15–20. The DMEA report also estimated that over 99% of the material extracted from the ore deposit would be waste rock. See CX 108, at 7.

43. The DMEA ultimately recommended certification of the discovery. Fredley Direct at 42; CX 108, at 16.

44. In January 1961, the DMEA issued a "Project Summary Report" for the Questa Site that noted Molycorp's privately-financed work in conjunction with its

government-financed work resulted in the discovery of a large, low-grade molybdenum ore body. CX 112, at 3; Quivik Direct ¶ 117.

45. According to the DMEA's official reports, the exploration conducted under the DMEA Contract led to the discovery of a large, low-grade molybdenum ore body at the Questa Site. CX 108, at 6; Considine Direct at 11; Rigby Direct at 28; Dewey Direct at 23.

46. On January 13, 1961, the Office of Mineral Exploration (OME)[2] issued a certification of mineral discovery under the DMEA Contract. CX 113.

47. Banks were more willing to loan money to Molycorp because of the government's certification of mineral discovery. See Fredley Direct at 43. This is because financing institutions look for substantial documentation of an economically feasible ore deposit before providing mining project financing. DMEA Dep. at 261:8–262:16.

48. The DMEA's seed money and discovery certification enabled Molycorp to secure private financing for this endeavor and to further delineate and develop the Open Pit Mine. Considine Direct at 12; Fredley Direct at 43–44; Rigby Direct at 30; Trial Tr. at 150:14–19 (Dewey Redirect), 242:4–19 (Rigby Redirect), 364:6–16 (Considine Cross).

49. Between the time that the DMEA Contract ended in June 1960 and the time

[2] The DMEA dissolved in the spring of 1958 due to a lack of need for defense-related mineral acquisition, and the OME replaced it. Trial Tr. at 646:6–24 (Brigham Redirect).

that the Open Pit Mine opened in June 1964, Molycorp pursued more exploration with its own funds. Quivik Direct ¶¶ 122–23. Between June 1963 and June 1964, Molycorp spent $4.73 million of its own funds on further delineation and development of the low-grade ore body discovered during the DMEA Contract exploration. USX 003, at 18; Quivik Direct ¶ 124. The fact that Molycorp accessed private capital at other times does not diminish the significance of the DMEA's involvement through its loan and certification, which allowed this project to take off.

D. The Open Pit Mine (1964–1983)

1. Beginning of Open Pit Mining Operations

50. Molycorp voluntarily decided in June 1964 to implement its production plans for the Open Pit Mine, despite understanding that construction delays and other market factors could affect the mine's cost and profitability. Quivik Direct ¶¶ 125, 130–31; Trial Tr. at 385:3–386:5 (Considine Cross); USX 003, at 13–14.

51. Molycorp borrowed tens of millions of dollars from private funds for the development costs of the Open Pit Mine. Quivik Direct ¶ 127; Fredley Direct at 43; Rigby Direct at 30; Trial Tr. at 53:6–22 (Dewey Cross); USX 003, at 5.

52. Molycorp had no obligation to develop the Open Pit Mine and would not have needed to repay the DMEA loan if it did not develop the mine. Fredley Direct at 38.

53. Molycorp developed the Open Pit Mine on land that it had patented between 1922 and 1930. Quivik Direct ¶ 18; Trial Tr. at 156:4–12 (Rigby Cross); USX 003, at 17; USX 558, at 13; CX 453.

54. U.S. Forest Service mineral reports from 1969 and the DMEA and Molycorp final reports from 1960 show that the large ore body discovered by the DMEA-funded underground exploration was the same ore body mined through the Open Pit Mine and later the Second Underground Mine. Compare CX 211, with CX 107 & CX 108; Fredley Direct at 44–45; Rigby Direct at 32–37; see also CX 363.

55. Of the 43 diamond drill holes funded by the DMEA, 29 intersected the large, low-grade ore body later developed at the Questa Site. Rigby Direct at 36; see CX 421. The drill holes intersected the ore body several hundred feet below the eventual Open Pit Mine perimeter. Quivik Direct ¶¶ 190, 193, 195; Trial Tr. at 194:9–16, 198:14–24, 206:2–20 (Rigby Cross).

2. Waste Rock Disposal

56. Molycorp was the operator of the Open Pit Mine and controlled all waste generation, transport, and disposal activities. Trial Tr. at 24:22–25 (Dewey Cross).

57. Nine waste rock piles exist at the Questa Site. Haddad Direct at 9 (ECF No. 223-5). The three largest waste rock piles (Sulphur Gulch, Middle, and Sugar Shack South) sit on the north slope of the Red River Valley overlooking State Highway 38. Haddad Direct at 26; CX 444.

58. Waste rock haulage and disposal is one of the biggest operating costs of a mine. Dewey Direct at 32. Additional factors that had to be considered include the steep terrain of the site, the need to leave room for haul roads, and further development of the open pit as operations continued. Quivik Direct ¶ 31. The waste rock was placed at the Open Pit Mine strategically to accommodate these factors. Id.

¶¶ 31, 53.

59. Federal officials, including Bureau of Land Management (BLM) surveyors and U.S. Forest Service mineral examiners, regularly visited the Questa Site and witnessed the waste disposal activities that were occurring on patented and unpatented land. Fredley Direct at 66; Dewey Direct at 20; CX 272; see Gandy Dep. at 245:23–247:12 (ECF No. 235-5); USFS Dep. at 81:14–22 (ECF No. 256-1).

60. Molycorp and the government estimated that the development of the Open Pit Mine would generate approximately 70 million tons of waste rock, not including 10 million tons of overburden. Quivik Direct ¶ 133; CX 131, at 79.

61. The Open Pit Mine alone generated approximately 313 million tons of waste rock. Haddad Direct at 15; Trial Tr. at 663:3–7 (Haddad Cross). In total, Molycorp disposed of over 327 million tons of waste rock at the Questa Site. Quivik Direct ¶ 60; USX 477, at 1.

62. Waste rock disposal into the waste rock piles began in 1965. Haddad Direct at 20. At this time, Molycorp had patents for 12.8% of the total Questa Site land. Id. at 21. By 1970, Molycorp had patented 18.7% of the total Questa Site land. Id. Between 1970 and 1983, Molycorp executed patents or land exchanges for most of the remaining land at the Questa Site. Id.; CX 463.

63. The majority of Molycorp's waste rock was originally placed on unpatented land, which was considered to be "property of the Federal Government," and later transferred to Molycorp for the specific purpose of waste rock disposal. CX 282, at 33; Fredley Direct at 54–55; Trial Tr. at 353:7–19 (Fredley Redirect); see e.g., CX

169, at 9–11; CX 328, at 61; CX 345, at 9; CX 465.

64. In total, 60% of all of the waste rock that was placed at the Questa Site was placed on land that was either unpatented at the time the waste rock was placed or was placed on land exchanged by the United States for the express purpose of waste rock disposal. Haddad Direct at 15, 24; Trial Tr. at 708:17–709:6 (Haddad Redirect); CX 465.

3. Molycorp's Red River Valley Waste Rock Disposal Plan

65. In 1967, Molycorp discovered a geological weakness in the western wall of the Open Pit Mine. Fredley Direct at 83; CX 365. In February 1968, a large slide occurred at the south end of the west wall of the Open Pit Mine. Quivik Direct ¶ 145.

66. Rather than discontinuing the Open Pit Mine's operations, Molycorp developed a new mining plan which caused the expected stripping ratio[3] to increase from approximately 2.5:1 to 10:1. Quivik Direct ¶ 146; Fredley Direct at 84; Rigby Direct at 40; CX 365, at 4; Trial Tr. at 307:6–18 (Fredley Cross).

67. This massive increase in overburden created a "waste disposal problem" which Molycorp attempted to solve with notice to and the assistance of the government. Dewey Direct at 33–34, 36–38; Fredley Direct at 84, 87; CX 209, at 1; CX 252, at 5. To accommodate the increase in waste rock, Molycorp's Chief Engineer, Ed Torgersen, developed the Red River Valley Waste Rock Disposal Plan (Red River Valley Plan). Fredley Direct at 86; Dewey Direct at 35; Trial Tr. at

[3] A stripping ratio is the tons of waste rock per ton of ore extracted. Fredley Direct at 83.

143:8–24 (Dewey Redirect); CX 210. Such a plan would have involved locating mill site claims across the Red River Valley, rerouting portions of State Highway 38 and the Red River into tunnels, and dumping waste rock over the tunnels and into the Red River Valley. Dewey Direct at 34–35; CX 282, at 18–19; CX 281, at 7.

68. Molycorp's plan included fan-shaped mill sites that would run from the area near the Open Pit Mine across State Highway 38. CX 216, at 3; CX 210; Trial Tr. at 85:20–86:16 (Dewey Cross). Molycorp planned to occupy these fan-shaped mill sites by putting some waste on the top part of the site. Trial Tr. at 316:2–7 (Fredley Cross). It is unclear whether this long, slender 5-acre shape would have been consistent with the Mining Laws. CX 216, at 2; Trial Tr. at 316:8–18 (Fredley Cross), 622:12–23 (Quivik Redirect).

69. In January 1969, Molycorp presented this Plan to solve the "waste disposal problem" to the U.S. Forest Service at a meeting. Dewey Direct at 36–37; CX 210.

70. Molycorp never made a formal, written proposal to the U.S. Forest Service for the Red River Valley Plan and did not produce engineering drawings or cost estimates for the concept. Quivik Direct ¶¶ 47, 150, 221; Trial Tr. at 215:10–15 (Rigby Cross), 587:19–588:3 (Quivik Cross).

71. The U.S. Forest Service "vigorously opposed" the Red River Valley Plan without undertaking any analysis or study of the Plan. Fredley Direct at 88, 90; Rigby Direct at 51; CX 281, at 7; see CX 210; Wall Dep. at 81:11–82:22 (ECF No. 235-6).

72. As justification for opposing the Plan, the U.S. Forest Service asserted that it was unclear whether mill sites could be used for waste rock disposal under the

Mining Law. Fredley Direct at 88. This position was inconsistent with its previous views about waste rock disposal on unpatented mill site claims, as much of the waste rock at the Questa Site had already been placed on unpatented mill site claims. Fredley Direct at 89; Dewey Direct at 43, 45; CX 204, at 1; CX 281, at 7; Trial Tr. at 352:7–18 (Fredley Redirect). It also proved inconsistent with its later view, expressed in 1971, that Molycorp had "every right to use millsites for waste disposal areas." CX 281, at 7; USFS Dep. at 204:13–205:4.

73. The U.S. Forest Service indicated that it "believe[d] it necessary to initiate a friendly validity contest"[4] to determine if Molycorp could use mill sites for dumping waste. CX 216, at 2; Fredley Direct at 91–92; see Trial Tr. at 135:3–5 (Dewey Redirect), 356:17–20 (Fredley Redirect).

74. A validity contest would have been lengthy, costly, and likely would have precluded Molycorp from operating the mine during the pendency of the contest. Fredley Direct at 92–93; Dewey Direct at 41; USFS Dep. at 168:3–170:11.

75. The U.S. Forest Service preferred a land exchange to the mill sites proposed under the Red River Valley Plan because it wanted to avoid the administrative workload that necessarily accompanied patenting many 5-acre parcels of land. CX 252, at 2; Fredley Direct at 90; Gandy Dep. at 62:2–17. Additionally, a land exchange would provide the United States with the benefits of the Offered Land to maintain for the public. CX 281, at 8; USFS Dep. at 139:23–140:12.

[4] A validity contest is an administrative proceeding brought within the administrative tribunal of the Department of the Interior. USFS Dep. at 168:3–9.

76. The U.S. Forest Service also stated that the Red River Valley Plan would have a "tremendous" impact on the environment and ecology of the area. CX 281, at 7; Quivik Direct ¶ 45; Fredley Direct at 90.

77. Although Molycorp contends that the plan was "reasonable, technically feasible, and economically superior to any other option" then available, Rigby Direct at 42, at a minimum, the evidence indicates that the U.S. Forest Service was aware of Molycorp's waste disposal problem and actively participated in efforts to resolve it, see CX 252, at 5; CX 209, at 1; CX 284, at 5. The present location, design, and slope of the large rock piles on the north slope of the Red River Valley represent the government's preferred solution given its rejection of Red River Valley Plan. Fredley Direct at 97; Dewey Direct at 41–43; Haddad Direct at 25; Trial Tr. at 91:3–15 (Dewey Cross), 356:25–357:5 (Fredley Redirect).

78. Between 1969 and 1984, when the waste rock piles were complete, the three roadside waste rock piles on the north slope of the Red River Valley (Sugar Shack South, Middle, and Sulphur Gulch) had increased by a factor of four — from 47.5 million tons to approximately 207 million tons. Haddad Direct at 25–27; CX 465; see CX 444.

79. Of the total waste rock that was ultimately deposited through 1984, 70% was deposited after the U.S. Forest Service rejected the Red River Valley Plan and the parties arrived at a solution to the waste disposal problem. Haddad Direct at 25–26; CX 466.

80. Of the total waste rock that was ultimately deposited on the three large

roadside waste rock piles, 77% was deposited after the U.S. Forest Service rejected the Red River Valley Plan and the parties arrived at a solution to the waste disposal problem. CX 466.

81. The three large roadside waste rock piles on the north slope of the Red River Valley will require the most technically challenging, costly, and dangerous remediation at the Questa Site. Rigby Direct at 52; see Haddad Direct at 29–30; Sitton Direct ¶ 63 (ECF No. 255-2). The Red River Valley Plan would have allowed for these piles to be built with a shallower slope, making them easier to remediate. Haddad Direct at 30; Rigby Direct at 48–49, 52; see Trial Tr. at 91:3–15 (Dewey Cross).

82. At the time, Molycorp's engineers recognized the danger and the remedial issues these piles posed for future generations due to their steep slope and potential for erosion. CX 245; Fredley Direct at 97–98.

83. Molycorp's Chief Engineer Ed Torgersen concluded that the Red River Valley Plan would have been a more practical solution for future remediation. CX 245; see Rigby Direct at 42–43.

4. The 1974 Land Exchange

84. In January 1974, Molycorp completed a land exchange[5] with the U.S.

[5] A land exchange occurs when the federal government exchanges federal land for private land with a private landowner. The land to be exchanged must be of similar value, the exchange must be in the public interest, and the land the government is exchanging must be nonmineral. Fredley Direct at 63; see Galley Dep. at 56:15–22, 253:7–23 (ECF. No. 235-4). The federal government's decision to classify land as available for exchange is discretionary. Galley Dep. at 88:14–89:14; BLM Dep. at

Forest Service to obtain fee title to lands around the perimeter of the Open Pit Mine. USX 035; see BLM Dep. at 43:15–18. A smaller, follow-up land exchange was completed in 1982. Fredley Direct at 96.

85. In the 1974 Land Exchange, Molycorp exchanged approximately 248 acres of land outside of the Questa Site, which it owned in fee simple (Offered Lands), for approximately 2,226 acres of National Forest land around the perimeter of the Open Pit Mine (Selected Lands). Fredley Direct at 64, 95; see CX 259. The 1982 Land Exchange involved 157 acres in Capulin Canyon. Fredley Direct at 64, 96.

86. At the January 1969 meeting, the U.S. Forest Service initially suggested the Land Exchange to Molycorp as an option to obtain fee title to more land for waste rock disposal. Dewey Direct at 40; Quivik Direct ¶ 150; Trial Tr. at 319:5–11 (Fredley Cross).

87. In 1971, the U.S. Forest Service produced an appraisal report of the Selected Lands which concluded that the "Highest and Best Use" of the land was for an "Open-pit mine dump." CX 259, at 3; Fredley Direct at 72; Galley Dep. at 95:2–9. The appraisal report also found that the Selected Lands were nonmineral. CX 259, at 6; Galley Dep. at 96:20–97:6, 256:9–257:1.

88. Prior to the Land Exchange, Molycorp had unpatented mining claims covering the Selected Lands. Quivik Direct ¶¶ 49, 152; USX 435, at 3. The United States was aware of the waste disposal on the Selected Lands prior to the Land

45:14–20 (ECF No. 235-1).

Exchange. Quivik Direct ¶ 153; CX 246, at 3; Trial Tr. at 558:12–17 (Quivik Cross); see Galley Dep. at 66:7–67:4.

89. As part of the 1974 Land Exchange, Molycorp relinquished its mining claims on the Selected Lands in 1970 (Relinquished Land). Quivik Direct ¶ 50; Fredley Direct at 72–73; Galley Dep. at 40:3–15; see USX 037; USX 038.

90. The Relinquished Land was held in informal "escrow" by the United States during the pendency of the Land Exchange from 1970 to 1974. Quivik Direct ¶ 167; USX 037; USX 038.

91. From 1970 to 1974, the United States was aware of the waste rock disposal on the land that it held in informal escrow during the pendency of the Land Exchange, and it consented to the waste rock disposal on the Relinquished Land during this time. Fredley Direct at 73; USFS Dep. at 158:15–159:5; CX 255; CX 272; CX 281, at 21.

92. Before the 1974 Land Exchange was finalized, Molycorp had already disposed of approximately 70% of the total waste rock that would end up in the waste rock piles. Fredley Direct at 67; see CX 282, at 33; Galley Dep. at 77:10–78:10.

93. Molycorp applied to obtain title by exchange, rather than through patent under the Mining Law, to avoid a costly and uncertain validity contest initiated by the government. See Fredley Direct at 92–94; Dewey Direct at 41.

94. The U.S. Forest Service preferred the Land Exchange because it allowed the United States to trade land that was not useful to the public due to Molycorp's waste disposal activities for private land with more public value. Quivik Direct ¶¶ 158, 160; Gandy Dep. at 36:8–37:3; USX 256, at 3; USX 048, at 2; see Trial Tr. at

555:11–557:15 (Quivik Cross); Galley Dep. at 114:25–115:17, 247:18–249:14.

5. Tailings Disposal

95. Molycorp operated the Tailings Area and Mill Complex and performed all waste disposal activities. The mill generated all of the tailings that were eventually transported to the Tailings Area, and Molycorp owned in fee simple the land on which the Mill Complex and its ancillary buildings were built. Trial Tr. at 121:3–9, 124:22–125:5 (Dewey Cross).

96. The United States would have been aware that the operation of an open pit molybdenum mine developing a low-grade molybdenum ore body would generate large amounts of tailings. Fredley Direct at 74–75.

97. Molycorp disposed of tailings on land that it owned in fee simple through land it purchased from the State of New Mexico[6] in 1964 and land it purchased from the BLM in 1966. USX 019; USX 021.

98. Molycorp initiated the BLM process to request a public auction for land that would become the Western Tailings Pond. Trial Tr. at 287:5–7 (Fredley Cross).

99. Molycorp preferred to purchase the land through public auction rather than through mill site claims because the land purchase was better for "public relations." CX 158, at 7; Quivik Direct ¶ 39.

100. The BLM was aware that the 627 acres of land it sold to Molycorp to

[6] The land purchased from the State of New Mexico became the Eastern Tailings Pond. Chevron has stipulated that it does not seek response costs for this portion of the Questa Site from the United States. ECF No. 185.

construct the Western Tailings Pond would be used as a tailings pond when it sold the land and had determined that tailings disposal was "the highest and best use [of that land]." Fredley Direct at 76; CX 158, at 8.

101. Molycorp also located and patented mill site claims near the Western Tailings Pond known as the Piñon claims. Sitton Direct ¶¶ 95–96; USX 431; USX 432. Before and after patents were issued, these claims were used for the construction of a protective berm and a diversion ditch to channel natural water drainage away from the tailings ponds. Sitton Direct ¶ 96; USX 432. It is unclear if and when these claims were used for actual tailings disposal. Compare Fredley Direct at 77–78; BLM Dep. at 114:4–115:5; CX 325, at 3; CX 331; with Sitton Direct ¶ 98; Trial Tr. at 458:23–459:19 (Sitton Cross).

102. The U.S. Forest Service approved a Special Use Permit that allowed Molycorp to construct approximately 4.271 miles of a nine-mile pipeline for tailings transportation from the mill to the tailings impoundments on National Forest lands. Fredley Direct at 78–79; Rigby Direct at 54–55; CX 140; CX 151. The remainder of the nine-mile pipeline was constructed on land that was either purchased or leased from private landowners. Quivik Direct ¶ 136; see USX 579; USX 581.

103. Before Molycorp submitted its application for the Special Use Permit, the U.S. Forest Service made suggestions and gave advice to Molycorp regarding its construction plans. Fredley Direct at 79; CX 136. The U.S. Forest Service approved the Special Use Permit within three months, which was unusually fast. Fredley Direct at 81. Additionally, the U.S. Forest Service provided a project liaison to monitor the

construction of the tailings pipelines. USFS Dep. at 103:20–104:12.

104. Molycorp requested amendments to the Special Use Permit over the years, all of which were approved, including an amendment to add a third and fourth pipe to the pipeline as the tailings volume increased. Quivik Direct ¶ 139; Fredley Direct at 81; see, e.g., USX 291.

105. The BLM also approved Molycorp's application for a right-of-way to allow decant water to flow from the tailings impoundments across federal land into the Red River. Rigby Direct at 55; CX 241; CX 242; see BLM Dep. at 94:2–96:9.

106. The United States' facilitation of Molycorp's tailings disposal allowed it to continue operating the Open Pit Mine, and the Mine likely could not have operated without the government's discretionary approval. Rigby Direct at 54–55; BLM Dep. at 83:22–84:6; USFS Dep. at 116:20–22; Trial Tr. at 536:10–21 (Quivik Cross); see Fredley Direct at 83.

E. The Second Underground Mine (1983–2014)

107. Molycorp's decision to close the Open Pit Mine and open the Second Underground Mine was based on projected profitability, and the United States was not involved in this decision or operation. Quivik Direct ¶¶ 58, 64, 184.

108. The cost of developing the Second Underground Mine was $250 million, none of which came from the United States. Quivik Direct ¶ 180; Considine Direct at 21; USX 447, at 1; USX 319, at 5.

109. Molycorp anticipated paying for the Second Underground Mine, in part, with proceeds from the Open Pit Mine. Dewey Direct at 26; CX 131, at 102.

110. By 1983, Molycorp had obtained fee title to all of the land overlying the Second Underground Mine before extracting ore from that land. Haddad Direct at 21.

111. The Second Underground Mine developed the same contiguous ore body as the Open Pit Mine. Trial Tr. at 246:14–20, 257:1–258:10 (Rigby Redirect).

112. Molycorp's operation of the Second Underground Mine generated very little of the waste rock in the waste rock piles. Haddad Direct at 15; USX 477, at 1.

F. The Strategic Value of Molybdenum and the Questa Mine's Economic Impact

1. Molybdenum's Strategic Value to the United States

113. In 1939, the government determined that molybdenum was critical for national defense and began to stockpile molybdenum. Considine Direct at 6; Fredley Direct at 23–24; Brigham Direct ¶ 16.

114. In 1950, at the beginning of the Korean War, Congress passed the Defense Production Act (DPA), which listed molybdenum as a "strategic and critical" mineral and established certified resource expansion programs to increase molybdenum production, among other strategic minerals. Cryderman Direct at 11.

115. The DPA created the DMEA to provide potential strategic mineral suppliers with exploration funding and technical assistance. Fredley Direct at 24; Cryderman Direct at 12; Trial Tr. at 633:2–7 (Brigham Cross).

116. During World War II and the Korean War, Molycorp did not participate in any incentive programs to produce molybdenum. Considine Direct at 7, 10; Brigham Direct ¶¶ 25, 27; Trial Tr. at 636:21–637:3 (Brigham Redirect).

117. The government was concerned that one mine, owned by Climax Molybdenum Company and located in Colorado, dominated the molybdenum market and sought to diversify its supply. Trial Tr. at 404:12–405:2 (Considine Cross), 432:18–433:11 (Considine Redirect); Cryderman Direct at 11–12; Fredley Direct at 25–26; CX 105, at 34; see DMEA Dep. 119:11–120:7.

118. Later, the molybdenum market became more diversified through copper mines that produced molybdenum from the byproduct of copper mining. Trial Tr. at 406:10–18, 407:6–15, 410:15–23 (Considine Cross); Cryderman Direct at 7; Brigham Direct ¶ 30(b); see also CX 105, at 5, 7.

119. In 1957, the government determined that there was no longer a defense need for the DMEA program, and the DMEA program ended in the spring of 1958.[7] Brigham Direct ¶¶ 36–37; Trial Tr. at 646:6–13 (Brigham Redirect).

120. The molybdenum stockpile goal was met around 1958. Trial Tr. at 415:13–17 (Considine Cross); USX 539, at 10.

121. In 1960, it was estimated that the United States had enough molybdenum for foreign and domestic uses through 1970. Brigham Direct ¶ 30(d); CX 105, at 14. In 1962 — several years prior to the start of the Open Pit Mine — Congress approved a reduction of molybdenum in the national stockpile as the current amount exceeded the stockpile objective. Brigham Direct ¶ 41; USX 076, at 9. By 1970, the stockpile

[7] The exploration contract between Molycorp and the DMEA was signed in 1957, and while the DMEA dissolved in 1958, the DMEA honored its contract with Molycorp to its completion in 1960. CX 089, at 20; Trial Tr. at 646:22–647:7 (Brigham Redirect).

objective for molybdenum was zero. Brigham Direct ¶ 42; USX 574, at 8; Trial Tr. at 629:17–20 (Brigham Cross).

122. Molybdenum was completely removed from the national stockpile in 1975. Brigham Direct ¶ 45; USX 092, at 13; Trial Tr. at 435:6–9 (Considine Redirect); 629:21–630:5 (Brigham Cross).

123. The government pursued the Molycorp DMEA project partly because of molybdenum's strategic value. See CX 105; Trial Tr. at 434:8–20, 436:17–437:14 (Considine Redirect), 346:11–17 (Fredley Redirect). However, by the time the DMEA exploration was complete and the Open Pit Mine was operational, the national stockpile no longer required molybdenum. Brigham Direct ¶¶ 32, 39; USX 053, at 134.

124. The fact that the government's strategic need for molybdenum was satisfied by the time the Open Pit Mine became operational does not undercut the government's earlier encouragement and support of molybdenum mining through the DMEA.

125. Molycorp did not sell any molybdenum to the United States from the Open Pit Mine or Second Underground Mine. Brigham Direct ¶ 22.

2. Economic Impact on the United States and New Mexico

126. Molycorp's Open Pit Mine operations diversified the domestic sources of molybdenum and lowered molybdenum prices for end-consumers of molybdenum, including the United States. Considine Direct at 37–42.

127. In the 1960s, government policy as amplified by the U.S. Forest Service

favored the use of federal lands to increase economic opportunities for northern New Mexico. See CX 174; CX 283, at 1. The government promoted and supported the expansion of the Questa Site. See Fredley Direct at 48–51; CX 257. For example, in the appraisal report for the public auction of land for the Western Tailings Pond, the BLM noted that "[f]ederal officials are making a concerted effort to find means of stimulating the economy" in northern New Mexico. CX 158, at 6. The BLM explicitly considered the "the resulting economic benefit to the general area from the expanded mining operation" in determining the highest and best use of the land. CX 158, at 8.

128. In 1972, the U.S. Forest Service knew that Molycorp was "the largest single employer in northern New Mexico" and acknowledged that the town of Questa had benefitted greatly from Molycorp's operations with "noticeable changes . . . in the school system . . . and improved living standards of local people." CX 281, at 3–4.

129. The economic benefits of the Questa Mine justified the government's support of mining operations on federal lands. Considine Direct at 24–25; Fredley Direct at 46; see Trial Tr. at 81:19–25 (Dewey Cross), 147:7–17 (Dewey Redirect), 538:23–539:17 (Quivik Cross); CX 281, at 6; Galley Dep. at 124:10–20.

II. CONCLUSIONS OF LAW

A. Jurisdiction

130. Chevron brought this action to recover response costs and equitable contribution from the United States. Am. Compl. at 30–33 (ECF No. 32); 42 U.S.C. §§ 9607(a)(1), 9613(f), 9620(a)(1). Chevron seeks a declaratory judgment. Am.

Compl. at 30–34 (ECF No. 32); 28 U.S.C. § 2201(a); 42 U.S.C. § 9613(g)(2).

131. The government filed counterclaims for response costs and equitable contribution from Chevron. Am. Countercls. at 8–11 (ECF No. 140); 42 U.S.C. §§ 9607(a)(1), 9613(f), 9620(a)(1). The United States also seeks a declaratory judgment. Am. Countercls. at 10–11 (ECF No. 140); 28 U.S.C. § 2201(a); 42 U.S.C. § 9613(g)(2).

132. The court has jurisdiction over the subject matter and the parties. 28 U.S.C. § 1331; 42 U.S.C. § 9613(b); see ECF No. 135, at 5.

133. Venue is proper in this district. 42 U.S.C. § 9613(b); see ECF No. 135, at 5.

B. The Mining Law of 1872 and Organic Act of 1897

1. Mining Claims

134. The Mining Act of 1872 "provides that citizens may enter and explore the public domain, and search for minerals; if they discover 'valuable mineral deposits,' they may obtain title to the land on which such deposits are located." Andrus v. Shell Oil Co., 446 U.S. 657, 658 (1980) (quoting 30 U.S.C. § 22).

135. "A mining claim is a parcel of land containing precious metal in its soil or rock." Smelting Co. v. Kemp, 104 U.S. 636, 649 (1881).

136. Locators of mining claims "shall have the exclusive right of possession and enjoyment of all the surface included within the lines of their locations." 30 U.S.C. § 26; see also Quivik Direct ¶ 77; Trial Tr. at 267:13–14 (Fredley Cross).

137. The holder of an unpatented mining claim has a superior right to use the

land against third parties, "but as against the United States, his right is conditional and inchoate." United States v. Etcheverry, 230 F.2d 193, 195 (10th Cir. 1956). This is because an unpatented mining claim confers mineral rights to the locator, but the government still holds title to the land. See Best v. Humboldt Placer Min. Co., 371 U.S. 334, 335–36 (1963). Thus, claimants locate these mineral interests with the understanding "that the government retains substantial regulatory power" over their possessory interests. United States v. Locke, 471 U.S. 84, 105 (1985).

138. "[T]he Supreme Court has repeatedly emphasized Congress's broad, plenary Property Clause powers over national forest land, including lands subject to unpatented mining claims." Chevron Mining, 863 F.3d at 1276 (footnote omitted). "[T]he government's choice not to exercise its Property Clause powers does not invalidate their existence." Id.

139. Unpatented mining claims are a "unique form of property" where the "United States, as owner of the underlying fee title to the public domain, maintains broad powers over the terms and conditions upon which the public lands can be used, leased, and acquired." Locke, 471 U.S. at 104 (quoting Best, 371 U.S. at 335); see also USX 470; Trial Tr. at 494:13–495:4, 497:5–22 (Quivik Cross).

140. Citizens can convert unpatented mining claims into patented mining claims by following the process set forth in 30 U.S.C. § 29. See Quivik Direct ¶ 80. A mining claim cannot be patented without a finding of mineralization. See Andrus, 446 U.S. at 658 & n.1.

141. "[W]hen the government has issued and delivered its patent for lands of the

United States, the control of the department over the title to such land has ceased." Iron Silver Mining Co. v. Campbell, 135 U.S. 286, 301 (1890).

2. Mill Site Claims

142. The purpose of a mill site claim is to provide land for owners of valid mining claims who need additional space "for mining or milling purposes." 30 U.S.C. § 42; Ctr. for Biological Diversity v. U.S. Fish & Wildlife Serv., 33 F.4th 1202, 1210 (9th Cir. 2022). The phrase "mining or milling purposes" has been interpreted broadly to include depositing tailings, storing ore, and dumping waste. 4 American Law of Mining § 110.03 (2d ed. 1984).

143. Unlike a mining claim which must be located on mineralized land, a mill site claim must be located on nonmineral land. See Ctr. for Biological Diversity, 33 F.4th at 1210. Mill sites may not exceed five acres in size. Id.

144. A mill site claim cannot be patented unless the land is currently being used and occupied to support a mining operation. It cannot be patented for a future use. See 4 American Law of Mining § 110.03 (2d ed. 1984); Trial Tr. at 313:22–314:7 (Fredley Cross).

3. Organic Act of 1897

145. Under the Organic Act of 1897, the U.S. Forest Service has a duty to protect National Forests against destruction and depredation. See 16 U.S.C. § 551.

146. The government retained the power to regulate mining activity authorized by the Mining Law of 1872 at the Questa Site under the Organic Act of 1897 and later the U.S. Forest Service Regulations promulgated in 1974. See, e.g., Ctr. for

Biological Diversity, 33 F.4th at 1221; see also Fredley Direct at 101–02; USFS Dep. at 27:7–21, 58:21–59:4.

C. Equitable Allocation Considerations Under CERLCA

147. "In resolving [CERLCA] contribution claims, the court may allocate response costs among liable parties using such equitable factors as the court determines are appropriate." 42 U.S.C. § 9613(f)(1).

148. "The court must balance the equities in light of the totality of the circumstances." FMC Corp. v. Aero Indus., Inc., 998 F.2d 842, 847 (10th Cir. 1993).

149. "In any given case, 'a court may consider several factors, a few factors, or only one determining factor,'" depending on the circumstances of the case. United States v. Colo. & E.R.R. Co., 50 F.3d 1530, 1536 (10th Cir. 1995) (quoting Env't Transp. Sys., Inc. v. ENSCO, Inc., 969 F.2d 503, 509 (7th Cir. 1992)).

150. "[M]any courts look to the 'Gore Factors', proposed as a moderate approach to joint and several liability by Senator Albert Gore . . . ." Colo. & E.R.R. Co., 50 F.3d at 1536 n.5. These factors are neither exhaustive nor exclusive. Id. The Gore Factors are:

(i) the ability of the parties to demonstrate that their contribution to a discharge, release or disposal of a hazardous waste can be distinguished;
(ii) the amount of the hazardous waste involved;
(iii) the degree of toxicity of the hazardous waste involved;
(iv) the degree of involvement by the parties in the generation, transportation, treatment, storage, or disposal of the hazardous waste;
(v) the degree of care exercised by the parties with respect to the hazardous waste concerned, taking into account the characteristics of such hazardous waste; and

(vi) the degree of cooperation by the parties with the Federal, State or local officials to prevent any harm to the public health or the environment.

Id.

151. Courts also look to the "Torres Factors" enumerated by Judge Ernest C. Torres. Lockheed Martin Corp. v. United States, 35 F. Supp. 3d 92, 123 (D.D.C. 2014). The Torres Factors are:

1. The extent to which cleanup costs are attributable to wastes for which a party is responsible.
2. The party's level of culpability.
3. The degree to which the party benefitted from disposal of the waste.
4. The party's ability to pay its share of the cost.

United States v. Davis, 31 F. Supp. 2d 45, 63 (D.R.I. 1998).[8]

152. There are also "[o]ther factors that have been held relevant in an allocation analysis, particularly where there is a single site operator and an additionally liable . . . owner." Am. Int'l Specialty Lines Ins. Co v. United States, No. CV-09-1734, 2013 WL 135405, at *9 (C.D. Cal. Jan. 9, 2013). These factors include:

1. The parties' knowledge of, and acquiescence in, the activities that caused the contamination. See Cadillac Fairview/Cal., Inc. v. Dow Chem Co., 299 F.3d 1019, 1025, 1027 (9th Cir. 2002).

2. "The degree to which all the parties directly oversaw, managed, or

[8] "The Gore factors are most relevant in academic and theoretical analysis of the way Superfund liabilities should be allocated. But in the real world Judge Torre[s]'s list of four critical factors often provides the basis upon which Superfund allocation decisions are made." Robert P. Dahlquist, Making Sense of Superfund Allocation Decisions: The Rough Justice of Negotiated and Litigated Allocations, 31 Env't L. Rep. News & Analysis 11098, 11099 (2001).

conducted activities related to pollution at the site." United States v. Newmont USA Ltd., No. CV-05-020, 2008 WL 4621566, at *60 (E.D. Wash. Oct. 17, 2008).

3. The value of the contamination-causing activity to furthering the government's national defense efforts. See Cadillac Fairview/Cal., Inc., 299 F.3d at 1026; United States v. Shell Oil Co., 294 F.3d 1045, 1060 (9th Cir. 2002).

153. Having considered all the evidence presented and the totality of the circumstances as outlined in the findings of fact, the court concludes that the following factors are most critical to cost allocation at the Questa Site:

1. The parties' land ownership throughout the operation of the Questa Site;
2. The parties' notice of, knowledge of, and acquiescence in, the activities that caused the contamination;
3. The degree of involvement by the parties in the generation, transport, and disposal of the waste;
4. The degree to which the parties directly oversaw or managed activity that contributed to the contamination; and
5. The benefits received from the activities that caused the contamination, including any benefits to national defense efforts and to the local economy of northern New Mexico.

D. The Parties' Equitable Allocation

154. After considering the totality of the facts and circumstances of this case along with the relevant cost allocation factors and case law, this court concludes that the United States should bear responsibility for some response costs at the Questa Site. The court allocates 30% of eligible past and future response costs to the United States and the remaining 70% to Chevron.

155. As stipulated by the parties, the eligible costs should not include those costs related to the release of hazardous substances from or in the tailings pipelines or the Eastern Tailings Pond. See ECF No. 185.

156. Molycorp was the operator of the Questa Site and performed all waste rock and tailings disposal activities, making it the primary party responsible for the generation and disposal of waste at the Questa Site. Molycorp was not coerced by the United States into this mining activity; instead, Molycorp sought a positive return. See El Paso Nat. Gas. Co. v. United States, 390 F. Supp. 3d 1025, 1054 (D. Ariz. 2019).

157. However, without the encouragement and involvement of the United States, Molycorp's Open Pit Mine and Second Underground Mine likely would not have been developed. See Newmont USA Ltd., 2008 WL 4621566, at *44.

158. The government argues that it should not be allocated response costs because: (1) it had "bare legal title" to some of the land in question for a limited time; (2) Chevron had extensive land holdings and waste ownership for a much longer period; and (3) Chevron had sole control over mining and waste disposal on the land

and is solely responsible for the environmental conditions it created. ECF No. 284, at 9–10. The court is not persuaded. As the Tenth Circuit expected, the evidence at trial confirmed that "the government engaged in much more than mere passive ownership here." Chevron Mining, 863 F.3d at 1278. Indeed, the United States "actively encouraged mining activities on its lands" with its "continued oversight and involvement in operations" at the Questa Site. See id.

159. Both Chevron and the United States "had knowledge of and acquiesced to the site specific and inherent environmental issues associated with open pit mining." Newmont USA Ltd., 2008 WL 4621566, at *60.

160. "It would be inequitable for the Court to allocate [Chevron] full responsibility for the response costs at the Site[] when the government . . . knew[] how [Chevron] disposed of" its waste rock and tailings. Lockheed Martin Corp., 35 F. Supp. 3d at 150.

161. The United States entered into the DMEA Contract specifically to aid Chevron in mining a large, low-grade molybdenum ore body, and knew that the mining of this ore body would result in a substantial amount of waste rock. Additionally, the DMEA provided favorable loan terms and free expert mining advice throughout the exploration program, and it actively oversaw the exploration under the contract through on-site inspections and monthly reports. Additionally, the DMEA's mineral discovery certification substantially increased Molycorp's options for private funding for the development of the Open Pit Mine.

162. The fact that the amount of the DMEA loan was small in relation to the

private capital ultimately invested, or that Chevron may have had access to other capital, does not negate the government's encouragement and involvement in the form of the DMEA loan and certification.

163. Without the DMEA's technical and financial assistance, the Open Pit Mine and Second Underground Mine likely would not have been developed.

164. The United States also "repeatedly exercised its plenary regulatory authority over" National Forest lands surrounding the Questa Site for the purpose of enabling Molycorp to continue its waste rock and tailings disposal activities. See Chevron Mining, 863 F.3d at 1278. Examples of this authority include: participation in solving the waste disposal problems including opposition to the Red River Valley Waste Rock Disposal Plan; the initiation of the 1974 Land Exchange for the express purpose of providing land for waste rock disposal; the facilitation of the public auction for land to be used for the Western Tailings Pond; the expedited review and grant of the Special Use Permit for the tailings pipelines; and the grant of the right-of-way for decant water flow to the Red River. The 1974 Land Exchange in particular "highlights both the government's ownership (and active exercise of such) over relevant portions of the Questa [Site] . . . and also evinces the government's assistance in arranging such disposal." Id. at 1268 n.6.

165. Without the government's repeated exercise of this regulatory power, the mining operations at the Questa Site likely could not have continued.

166. The government's opposition to the Red River Valley Plan and subsequent initiation of the 1974 Land Exchange resulted in the increased size and slope of the

three roadside waste rock piles that have become the most dangerous and costly to remediate.

167. The government pursued the DMEA Contract at the Questa Site partly because of molybdenum's strategic value in the national defense effort. The Questa Site's molybdenum production also resulted in a lower cost of molybdenum for end consumers, including the United States.

168. Additionally, the Questa Site positively contributed to the local economy of northern New Mexico. The United States made it a priority to provide economic stimulation for this region, and the Questa Site became the major source of economic stimulus.

169. The court finds Chevron's arguments related to the Questa Mine's contribution to federal and state tax revenues irrelevant to equitable allocation in this case. Additionally, the court finds that the degree to which Chevron profited (or not) from its operation of the Questa Mine is immaterial because the court "fails to see how an unprofitable polluter should pay any less than a profitable one." Pentair Thermal Mgmt., LLC v. Rowe Indus., Inc., Nos. 06-cv-07164, 10-cv-01606, 2013 WL 1320422, at *24 (N.D. Cal. Mar. 31, 2013).

170. The government's argument that "the avoidance of windfall benefits" supports allocation of all costs to Chevron is unavailing. See ECF No. 284, at 25. The government's cited case involves the "indirect recovery" of past response costs from government contracts, making the additional CERCLA recovery of past response costs inequitable. See Lockheed, 35 F. Supp. 3d at 161 ("Lockheed

indirectly recovered through U.S.-government contracts the lion's share of its past response costs at the Sites, plus a profit."). Here, there is no evidence that Chevron has indirectly recovered response costs from the government in the past, and Chevron's lawful use of National Forest land during its operation of the Questa Site does not constitute an "unfair double benefit." See ECF No. 284, at 25.

III. ORDER

A Declaratory Judgment shall enter on the parties' contribution claims pursuant to 42 U.S.C. § 9613(f)(1): 30% of all past and future eligible response costs are allocated to the United States and 70% of all past and future eligible response costs are allocated to Chevron.

IT IS SO ORDERED.

DATED this 28th day of June 2022 at Santa Fe, New Mexico.

/s/ Paul Kelly, Jr.
United States Circuit Judge
Sitting by Designation