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**UNITED STATES DISTRICT COURT
CENTRAL DISTRICT OF CALIFORNIA**

AMERICAN INTERNATIONAL
SPECIALTY LINES INSURANCE
COMPANY,

Plaintiff,

vs.

UNITED STATES OF AMERICA,

Defendant.

Case No.: CV 09-01734 AHM (RZx)

**FINDINGS OF FACT AND
CONCLUSIONS OF LAW
(LIABILITY PHASE; POST-TRIAL)**

FINDINGS OF FACT AND CONCLUSIONS OF LAW (LIABILITY PHASE; POST-TRIAL)

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1 **I. FINDINGS OF FACT**

2 **A. The Bermite Powder Company and Whittaker Corporation**

3 1. The site at issue in this litigation is located at 22116 West Soledad
4 Canyon Road in Santa Clarita, California (the “Site”). It covers approximately 996
5 acres. Revised PreTrial Conference Order (Doc. No. 112-2), §5 (“PTCO Stip.”)
6 #1. *See* Trial Ex. 291.

7 2. Perchlorate has been found in the soil and groundwater at the Site.
8 *See* Stip. Fact No. 2.

9 3. The Bermite Powder Company (“Bermite”) acquired the Site in the
10 1940s. PTCO Chronology at Ex. A (Document No. 112-3).

11 4. On September 23, 1967, Whittaker Corporation (“Whittaker”)
12 acquired Bermite and assumed its operations at the Site. Trial Ex. 1593 (1967
13 Acquisition Agreement between Bermite and Whittaker, including Schedules) (the
14 “1967 Acquisition Agreement”); PTCO Stip. #4. Whittaker continued
15 manufacturing large numbers of perchlorate-containing products at the Site for the
16 oil industry through at least 1986. Whittaker’s manufacturing activities at the Site
17 ceased in 1987.

18 5. Perchlorate and solvent waste was created as a result of Whittaker’s
19 manufacturing operations at the Site.

20 6. At all relevant times, Bermite or Whittaker owned all of the land that
21 comprises the Site. The United States at no time owned any of the land at the Site.
22 *See* Luce Depo. (5/12/09) at 54:25-55:7; Tigue Depo. at 237:11-13.

23 7. Bermite or Whittaker owned and maintained all of the buildings and
24 structures at the Site. Those companies owned all warehouses, laboratories,
25 production buildings, and places where Bermite and Whittaker stored hazardous
26 waste at the Site.

27 8. Bermite and Whittaker maintained the grounds of the Site.
28

1 9. Bermite and Whittaker provided security for and controlled access to
2 the Site.

3 10. Whittaker and Bermite were responsible for directing, managing, and
4 controlling all day-to-day operations at the Site, including operations related to
5 waste disposal.

6 11. Whittaker and Bermite developed various operational procedures for
7 handling solvents, materials, and waste at the Site, including in the propellant
8 plant.

9 12. Whittaker’s Safety Department was responsible for handling, storage,
10 and ultimate disposal of all waste, including perchlorate waste, at the Site.

11 13. Whittaker was responsible for ensuring that its waste disposal
12 practices were in compliance with all applicable local, state, and federal
13 environmental laws and regulations.

14 14. Whittaker was solely responsible for obtaining and maintaining all
15 permits needed for the Site, including open burn permits and wastewater discharge
16 permits.

17 15. Following the 1967 Acquisition, Whittaker maintained the Bermite
18 name and operated Bermite as a separate division. Accordingly, Bermite is
19 referred to herein, both before and after the 1967 acquisition as “Bermite.”

20 16. Following World War II, Bermite provided munitions, ordnance and
21 material to the United States military for use in the country’s national defense.
22 Declaration of Max Calkins, Document No. 99 (“Calkins Decl.”), ¶¶ 13, 18, 20.

23 17. From 1954 until 1987, in excess of 90 percent of Bermite’s production
24 was for the United States Government.

25 **B. The Military Products at Issue in this Litigation**

26 18. At trial, AISLIC stipulated that it was abandoning its claim that the
27 United States is liable under CERCLA in connection with any activities at the Site
28 during World War II.

1 19. The only government contracts or agreements that AISLIC alleged as
2 a basis for the United States' liability date between the late-1960s and the mid-
3 1980s.

4 20. Beginning in the mid-1960's, Bermite produced for the United States
5 rocket motors for use in Sidewinder and Chaparral missiles. The Chaparral and
6 Sidewinder missiles are closely related. The Sidewinder is used by the Navy,
7 while the Chaparral is used by the Army. The missiles use the same type of
8 propellant (known as N-29 propellant). Calkins Decl., ¶¶ 17-19, 30.

9 21. Bermite produced GAU-8 ammunition for the military from
10 approximately September 1977 until December 1980. One of the types of
11 ammunition produced was an armor-piercing projectile that contained a depleted
12 uranium core. Calkins Decl. ¶¶ 99-102; 2/24/10 AM Tr. 310:1-9 (Calkins); 3/2/10
13 PM Tr. 1085:1-1082:19 (Williams).¹

14 **C. Hazardous Substances Used By Bermite in Connection with**
15 **Production and Refurbishment of Rocket Motors, and**
16 **Production of GAU-8 Ammunition**

17 **1. Ammonium Perchlorate**

18 22. Ammonium perchlorate was a major component of N-29 propellant.
19 PTCO Stip # 6. N-29 is composed of approximately 67% perchlorate. Declaration
20 of Robert Zoch Document No. 107 ("Zoch Decl.") ¶ 39.

21 23. Total use of perchlorate to manufacture Sidewinder and Chaparral
22 rocket motors has been estimated to exceed over 1.4 million pounds of perchlorate.
23 Trial Ex. 6553.

24
25
26
27 ¹ The Trial Transcript ("Tr") is hereafter cited by date, time (am or pm) and
28 page and line number.

1 24. Partial records obtained by the Government's retained expert, Dr. Jay
2 Brigham, confirm that Kerr-McGee sold more than 400 tons (800,000 pounds) of
3 ammonium perchlorate to Bermite in the 1970s. Trial Exs. 1343-47, 1349-55.

4 **2. Volatile Organic Compounds**

5 25. Bermite used volatile organic compounds ("VOCs"), including
6 trichloroethylene ("TCE"), perchloroethylene (also called tetrachloroethylene or
7 "PCE") and trichloroethane ("TCA"), at various times in its history for degreasing
8 or cleaning Government furnished equipment and machinery and also in making
9 products for the Government. Deposition of Edwin Tigie ("Tigie Depo.") 42:23-
10 43:6, 48:1-20; 49:16-50:1, 58:19-59:10, 83:5-84:8, 85:1-3, 151:15-20.

11 26. Bermite used TCE until the late 1970's. The United States then
12 authorized Bermite to switch to using PCE after scientific studies demonstrated
13 that TCE had toxic properties. Trial Ex. 1023.0009.

14 27. In 1982, the United States approved Bermite's use of TCA, a different
15 chlorinated solvent, instead of PCE. Trial Ex. 1001.0018.

16 28. Among other uses, Bermite employees used VOCs in the propellant
17 plant area to clean equipment, including mandrels, casting and curing assembly,
18 and mixing equipment. Tigie Depo. 42:23-43:9, 48:14-18, 49:16-50:1, 58:19-
19 59:10, 71:4-72:24, 83:5-84:8, 85:1-24, 139:4-8, 140:24-141:12.

20 29. In addition, the Government required that Bermite use VOCs to clean
21 Sidewinder/Chaparral rocket tubes in the propellant plant area. Tigie Depo. 58:1-
22 59:6; Deposition of Bradley Peach dated February 26, 2009 ("2009 Peach Depo.")
23 161:21-163:2.

24 **3. Depleted Uranium**

25 30. The GAU-8 armor-piercing incendiary projectiles that were test-fired
26 at Bermite contained a depleted uranium ("DU") core. 3/2/10 PM Tr. 1091:3-
27 1091:18 (Williams: "Q. They shot the actual depleted uranium in order to test it at
28 Bermite? A. Correct."); Calkins Decl. ¶ 101.

1 **D. Basic Ordering Agreement for Recycling Rocket Motors and**
2 **Contracts for the Production of Rocket Motors**

3 **1. Basic Ordering Agreement to Refurbish and Recycle**
4 **Rocket Motors**

5 31. In 1975, Bermite entered into a Basic Ordering Agreement
6 (DAAH01-76-A-009) with the United States Army to repair, rebuild, refurbish,
7 and retrofit Chaparral rocket motors (the “1975 BOA”). Trial Ex. 66. The
8 Statement of Work for that Basic Ordering Agreement contemplated that
9 Whittaker would perform one of four general tasks:

- 10 a. Modify, repair, rebuild, refurbish and/or retrofit Chaparral rocket
11 motors;
12 b. Furnish and deliver repair parts;
13 c. Furnish and deliver modification kits; or
14 d. Supply technical and logistical services and material required in
15 support of the Chaparral rocket motors.

16 *See* Trial Ex. 66 at 0066.18-0066.19. It is not possible to determine what particular
17 task Bermite performed at any given time, absent a specific order, given the
18 different tasks set forth in the Agreement. *See* Trial Day 1, Vol. 2 at 204:19-
19 205:19 (Calkins).

20
21 32. One Delivery Order issued under the 1975 BOA has survived. In that
22 Delivery Order, the United States directed Bermite to refurbish 67 Chaparral
23 rocket motors. The United States paid Bermite \$1,000 to refurbish each rocket
24 motor. Trial Exs. 67 and 1320.

25 33. Each Delivery Order issued under the 1975 BOA was a separate
26 contract that incorporated and was subject to the terms of the 1975 BOA. Trial Ex.
27 66.0025.
28

1 34. Circumstantial evidence shows that additional Delivery Orders were
2 issued under the 1975 BOA. Certain surviving records refer to additional Delivery
3 Orders. Trial Ex. 1726. In addition, records maintained by the National Archives
4 reflect that the United States paid Bermite \$1,118,000 for work performed under
5 Delivery Orders for the 1975 BOA. Trial Exs. 1320 and 6608; 2/26/10 PM Tr.
6 815:10-817:5 and 838:6-10 (Brigham); Zoch Decl. ¶ 68. Based on a price of
7 \$1,000 per motor, this data implies that Bermite recycled over 1,100 rocket motors
8 for the Army under the 1975 BOA.

9 35. Bermite removed and disposed of at least some quantities of
10 perchlorate-containing propellant from rocket motors provided it by the Army for
11 recycling. By May 1978, Bermite had generated hazardous waste in connection
12 with the manufacturing of propellant and explosive products, the largest volume of
13 which resulted from “re-loading” Chaparral rocket motors under the 1975 BOA.
14 Trial Ex. 1296.

15 36. Edwin Tigue, a Whittaker employee who personally oversaw the
16 removal of propellant from rocket motors, testified that the rocket motors that were
17 “hogged out” at the site had not met the specifications and were hogged out on a
18 daily basis by the production department, using water. Tigue Depo, pp. 121-122.

19 37. Under the 1975 BOA, the Government approved the use of substantial
20 amounts of government-furnished equipment such as casting mandrels needed to
21 load new propellant into recycled rocket motors. Trial Exs. 1209 and 1975. In
22 order to use this equipment to inject new propellant into the rocket motors
23 provided by the Army under the 1975 BOA, Bermite first had to remove the
24 propellant previously contained in the motors. Trial Ex. 67.0003-0008 (Scope of
25 work).

26 **2. Contracts for the Manufacture of New Rocket Motors**

27 38. From 1965-83, the United States issued contracts under which
28 Bermite manufactured and delivered to the Government over 20,000 Chaparral and

1 Sidewinder rocket motors. 2/26/10 PM Tr. 869:12-19 (Brigham); Trial Exs.
2 98.0001-2 and 6552.0001; Zoch Decl. ¶¶ 40, 55-59, 62. During the same period,
3 Bermite manufactured an additional 2-3,000 rocket motors that were used for test-
4 firing at the Bermite site or that were demilitarized at the site after failing
5 inspection. Zoch Decl. ¶62, Calc. 1.

6 39. Many of the actual contracts between the United States and Bermite
7 for the production of rocket motors have been lost. This is explained at least in
8 part by the fact that Government policy calls for the destruction of contracts after
9 five to seven years. Given this policy, together with the passage of time, many of
10 the contractual documents for the manufacture of rocket motors have been lost.
11 2/26/10 AM Tr. 716:5-717:9 (Tamada).

12 40. Eight contracts for the manufacture of Chaparral or Sidewinder rocket
13 motors remain in existence (the “surviving” rocket motor contracts). Trial Ex.
14 6542.0001 and exhibits cited therein; Zoch Decl. ¶ 42. The earliest of the
15 surviving contracts was issued in 1971. Trial Ex. 6542. An index to the key
16 provisions of the surviving contracts is found at Trial Ex. 6566.

17 **3. Expected Attrition under Rocket Motor Manufacturing**
18 **Contracts**

19 41. Attrition is “additional materials that are allocated to a rocket motor
20 contract production, but then become scrap or waste because they’re not used to
21 manufacture the rocket.” 2/25/10 AM Tr. 474:7-9 (Zoch)

22 42. Each rocket motor manufacturing contract issued to Bermite
23 intentionally provided excess raw materials in order to account for attrition
24 expected to occur under the contract. Calkins Decl. ¶ 47; 2/23/10 PM Tr. 198:19-
25 199:1 and 200:8-12 (Calkins); 2/24/10 AM Tr. 251:2-253:9 (Calkins); 2/25/10 AM
26 473:25-474:9 (Zoch); Trial. Ex. 1022.0296 (Bill of Material).

27 43. The excess raw materials were provided to allow for normal losses of
28 materials that routinely occurred in the course of manufacturing rocket motors.

1 These planned-for losses included losses due to spillage and generation of dust,
2 accumulation of materials on manufacturing equipment, the need to test-fire a
3 given number of rocket motors, and the need to take into account losses from
4 expected rejection of a small but predictable percentage of rocket motors that
5 failed inspection. Calkins Decl. ¶ 47; 2/23/10 PM Tr. 199:6-200:12 (Calkins).

6 **E. The Title Vesting Clause in the Rocket Motor Manufacturing**
7 **Contracts**

8 44. Each of the surviving rocket motor contracts and the Basic Ordering
9 Agreements incorporated the provisions of Armed Services Regulation (“ASPR”)
10 section 7-104.35, either by reprinting the language of that section, or by
11 incorporating the terms by explicit reference. Calkins Decl. ¶ 94; Tr. Exs. 6566
12 (chart demonstrating that each surviving contract incorporated ASPR section 7-
13 104.35) and 6558; 2/26/10 AM Tr. 728:3-729:8 (Tamada) and Trial Ex.
14 6601(ASPR § 7-104.35); Trial Ex. 1696.0129 and 2/26/10 AM Tr. 725:14-26:3
15 (Tamada).

16 45. ASPR Section 7-104.35 is titled “Progress Payments” and is hereafter
17 referred to as the “Progress Payment Section.” Trial Ex. 1696.0129 and 2/26/10
18 AM Tr. 725:14–726:3 (Tamada) and Trial Ex. 6601. Part “D” of the Progress
19 Payment Section, which is incorporated into all of the surviving contracts, is
20 entitled “Title,” and is hereafter referred to as the “Title Vesting Clause.” Trial Ex.
21 1696.0129 and 2/26/10 AM Tr. 725:14–728:8 (Tamada); Tr. Exs. 6558; 6566
22 (chart demonstrating that each surviving contract incorporated ASPR section 7-
23 104.35).

24 46. The Progress Payment Section is currently codified at Federal
25 Acquisition Regulation (“FAR”) Section 52.232 of Title 48 of the Code of Federal
26 Regulations. Although the language of the Progress Payment Section has changed
27 slightly over the years, its terms, including the Vesting Clause, have remained
28 basically unchanged since at least 1971. 2/26/10 AM Tr. 729:18-730:10 (Tamada).

1 Cf. Trial Exs. 6601 (1974 ASPR), 1696.0129 (contract containing 1969 ASPR),
2 and FAR 52.232.-16(d) (48 CFR § 52.232.-16(d)).

3 47. The Progress Payment Section obligated the United States to make
4 interim (i.e., “progress”) payments to the contractor for a stated percentage
5 (typically 80%) of certain costs incurred by the contractor in completing the
6 contract. In exchange, the Progress Payment Section provided the United States
7 with certain rights under the contract, including the rights set forth in the Vesting
8 Clause. Trial Ex. 1696.0128-32; 2/24/10 AM Tr. 296:15-298:2 (Calkins).

9 48. The Vesting Clause contained in all of the contracts provided that title
10 to “all parts, materials, inventories, work in progress, [and] special tooling” --
11 whether acquired before (“theretofore”) or after (“thereafter”) the date of the
12 contract -- shall “forthwith vest in the Government” as soon as the items in
13 question were “allocable or properly chargeable” to the contract. Trial Ex. 1696.
14 0129 and Trial Ex. 6601 at p. 123; Calkins Decl. ¶¶ 94-95.

15 49. An item is allocable or properly chargeable within the meaning of the
16 Vesting Clause if it is a charge incurred for the benefit of the contract. 2/26/10
17 AM Tr. 739:2-740:5 (Tamada). *See also* FAR 31.201-4 (48 CFR) (providing that a
18 cost is allocable where it is incurred for the contract, benefits the contract or is
19 necessary to the overall operation).

20 50. It is the policy of the Department of Defense that the Title Vesting
21 Clause is interpreted to actually vest title in the United States. 2/26/10 AM Tr.
22 741:25-742:13 (Tamada) and Trial Ex. 6602 at §14-202.4c.

23 51. Bermite sought and received progress payments under all its
24 government contracts, including the Sidewinder and Chaparral rocket motor
25 contracts. 2/24/10 AM Tr. 295:10-21; 296:15-298:7 (Calkins). See also Trial Ex.
26 35 (request for progress payments).

1 **1. The Government Owned All Work in Progress as a Result**
2 **of the Title Vesting Clause**

3 52. During the rocket motor manufacturing process at Bermite, title to all
4 materials “allocable or properly chargeable” to the rocket motor contract vested in
5 the United States. Only after the entire contract was completed and the final
6 payments were made, which could take years, would title to the allocable items not
7 delivered to and accepted by the Government vest in the contractor. Thus, during
8 the entire manufacturing process, the Government was vested with title to all
9 allocable items, whether delivered or not. 2/26/10 AM Tr. 744:3–745:5 (Tamada);
10 Trial Ex. 1696.0130-0131 and Trial Ex. 6601 at p. 123.

11 53. The Title Vesting Clause on its face applies to all work in progress
12 and all allocable materials, including materials (such as perchlorate) lost to
13 “attrition,” testing or rejection of motors during the manufacturing process; it does
14 not on its face exclude waste, or materials that may become waste. 2/26/10 AM
15 Tr. 744:25–745:13 (Tamada), Trial Ex. 1696.0130-0131 and Ex. 6601.

16 54. Under the contractual Vesting Clause provision, the United States
17 took title to all rocket motors under production as work in progress. The works in
18 progress included both those rocket motors that ultimately satisfied the
19 Government’s manufacturing and testing specifications and those that ultimately
20 failed to satisfy the specifications. Trial. Exs. 1696.0129 and 6601.

21 **2. As a Result of the Title Vesting Clause, The Government**
22 **Owned All Perchlorate and Solvents Purchased for Use**
23 **under the Surviving Rocket Motor Contracts**

24 55. Raw materials purchased by Bermite to be used with respect to each
25 surviving rocket motor contract included both ammonium perchlorate and VOCs.
26 Trial Ex. 1022.0296. Ammonium perchlorate was a major constituent of N-29
27 propellant used in the rocket motors. VOCs were required in order to clean
28 production equipment, including mixers and mandrels as part of the rocket motor

1 manufacturing process. Tigue Depo. 83:5-84:19; 85:1-3; 151:8-14, 47:24-48:23;
2 138:25-140:22.

3 56. These raw materials immediately became “allocable or properly
4 chargeable” as soon as the perchlorate or VOCs were purchased, therefore passing
5 title to the Government under the Title Vesting Clause. 2/26/10 AM Tr. 739:2-
6 740:5 (Tamada: “Q. So when in a rocket motor contract, the contractor goes out
7 and buys perchlorate that is required for making that rocket motor. That item then
8 immediately becomes chargeable and allocable to the contract? A. Yes Q. I am
9 not asking you about whether you are going to go in and actually grab the
10 perchlorate. What I am asking is the title would vest at that point in the U.S.
11 government, correct? A. Correct.”) and Tr. Exs. 6566 and 6602 at §14-202.4c.

12 **F. Means of Contamination of the Bermite Site by Perchlorate**

13 57. N-29 propellant waste (all of which contained perchlorate) caused
14 contamination at the Bermite site by at least the following means: 1) propellant
15 waste collected at the plant was burned in designated burn pits in the Burn Valley,
16 2) propellant waste dissolved in waste water flowed into impoundments and/or was
17 washed onto the soil around the propellant buildings, and 3) propellant waste was
18 released as the result of test-firings of government-owned rocket motors required
19 under the rocket motor contracts. Zoch Decl. ¶¶ 93-98; Trial Exs. 6553; 6554. In
20 addition, evidence showed that rocket motor production also may have caused
21 perchlorate contamination from air-borne dust it generated, from dust found on the
22 floors of buildings where propellant was handled, and also, theoretically, from dust
23 that may have stuck to the clothing or shoes of workers present in such buildings.
24 3/2/2010 PM Tr. 1063:20-1064:5 (McLane).

25 58. Details of how this contamination occurred are set forth in the
26 sections below.

1 **G. Contamination Resulted From Government Furnished**
2 **Equipment – “GFE” – Used in Connection with Rocket Motor**
3 **Manufacturing Contracts**

4 **1. The GFE Provided by the Government**

5 59. The United States does not dispute that government-owned equipment
6 was present at Bermite during all relevant times. 2/25/10 AM Tr. 604:14-25;
7 1170:7-13 (Zoch).

8 60. Government policy includes furnishing government-owned equipment
9 to a contractor when the contractor establishes it has a need for such equipment to
10 carry out the contract. 2/26/10 AM Tr. 694:16-21 (Tamada).

11 61. Government Furnished Equipment (sometimes referred to as “GFE”),
12 included specialized equipment and tooling, which was necessary to manufacture
13 rocket motors economically and in a timely manner. Calkins Decl. ¶¶44, 64;
14 2/24/10 AM Tr. 279:16-19 (Calkins); Trial Ex. 1422. If Bermite had been required
15 to buy the equipment and special tooling for each contract, the United States would
16 have experienced great delays. 2/24/10 AM Tr. 255:3-5 (Calkins).

17 62. The prices contained in Bermite’s bid proposals for rocket motor
18 manufacturing contracts were predicated upon the United States Government
19 authorizing rent-free use of government-owned property. Trial Ex. 1022.0275-79;
20 2/24/10 AM Tr. 249:9-19, 254:9-16 (Calkins).

21 63. The United States Government repeatedly authorized the rent-free use
22 of the GFE, which included special tooling and special test equipment for the
23 rocket motor manufacturing contracts. Trial Exs. 944, 1194.0001-4, 1023.0005-8,
24 1061, 1205, 1208, 1209, and 1728.

25 64. The United States also authorized the use of GFE on Bermite’s
26 subcontracts to manufacture rocket motors. Trial Exs. 1397 and 1605; Calkins
27 Decl. ¶ 61.

28

1 65. Each surviving rocket motor manufacturing contract contained a
2 provision that permitted the United States Government to furnish property to
3 Bermite for the performance of the contract. Trial Exs. 14.0001 – 0010, 6566;
4 Calkins Decl. ¶ 59.

5 66. The specialized equipment and tooling furnished by the United States
6 Government included grinders, specially shaped rods known as mandrels, fixtures,
7 jigs and probes, molds, cast and cure assemblies, and plugs. Calkins Decl.
8 ¶¶ 66-68; Trial Exs. 6551 and 503.0001-2.

9 67. Each piece of GFE was accountable to a current rocket motor contract
10 or a facilities contract. 2/24/10 AM Tr. 267:15-268:20, 275:18-276:7 (Calkins).

11 68. The Government authorized the transfer of accountability of
12 Government Furnished Equipment from one rocket motor contract to another.
13 Calkins Decl. ¶¶ 62-63; 2/24/10 AM Tr. 289:7-11 (Calkins); Trial Ex. 942.0001-8;
14 945; 946; 948; 1001.0491-93; 1023.0002; 1062; 1198; 1488; 1489; 6551.

15 69. By late 1984, Bermite was no longer manufacturing rocket motors and
16 the United States requested that Bermite return the excess GFE to the United
17 States. The excess GFE included 29 casting mandrels. Trial Ex. 1001.0485;
18 2/24/10 AM Tr. 290:5-13 (Calkins).

19 70. In 1985, Bermite identified its excess GFE and requested that the GFE
20 be placed into plant clearance. Trial Ex. 1001.0473-76; 2/24/10 AM Tr. 292:6-19
21 (Calkins).

22 71. In January 1986, Bermite purchased the excess GFE, including the
23 casting mandrels, from the United States Government for \$4,000. Trial Ex.
24 1001.0462-66; 2/24/10 AM Tr. 292:24-293:17 (Calkins).

25 72. There is no evidence that Bermite owned casting mandrels at any time
26 when it was manufacturing Sidewinder or Chaparral rocket motors.

27
28

1 **2. The GFE was Used in Connection with the Rocket Motor**
2 **Contracts**

3 73. Bermite routinely used the GFE that was provided by the United
4 States Government to manufacture rocket motors. Bermite requested the GFE
5 because Bermite needed the special tooling and equipment to manufacture rocket
6 motors. 2/24/10 AM Tr. 263:5-11 and 277:16-23 (Calkins); 2/26/10 AM Tr.
7 694:16-695:5 (Tamada); Trial Ex. 1629.0091-92.

8 74. The GFE for the manufacture of rocket motors was heavily used.
9 Some of the government-owned mandrels required Government authorized repairs
10 because the GFE was worn down from years of usage on the rocket motors
11 contracts. Trial Ex. 1730.0001-2; Calkins Decl. ¶ 69. Other GFE similarly was
12 classified as “must replace” or “should replace” due to frequent use. Trial Ex. 933;
13 2/24/10 AM Tr. 276:15-23 (Calkins).

14 75. The United States Government repeatedly authorized the transfer, and
15 Bermite’s use, of Government Furnished Equipment to manufacture rocket motors.
16 Trial Exs. 942.0001-8, 945, 946; 948, 1023.0002, 1198, 1488, 1489; Calkins Decl.
17 ¶69; 2/24/10 AM Tr. 277:7-15 (Calkins).

18 76. The Government owned and provided at least one Crusher, Multi-
19 Swing Hammer. The Crusher, Multi-Swing Hammer was used to grind perchlorate
20 to specified particle sizes for use in rocket motor manufacturing. Trial Exs.
21 18.0004, 1532; 503.0001-2, 1629.0091-92; 2/24/10 AM Tr. 272:10-24; 273:18-
22 275:3 (Calkins).

23 77. The United States concedes that the Crusher, Multi-Swing Hammer
24 was used at Bermite to manufacture Chaparral and Sidewinder rocket motors.
25 3/3/10 AM Tr. 1186:13-18 (Government Closing).

26 78. The United States concedes that Government owned mandrels were
27 furnished to Bermite and used to manufacture Chaparral and Sidewinder rocket
28 motors. 3/3/10 AM Tr. 1172:1-5, 1186:10-12 (Government Closing).

1 79. The mandrels were placed in the rocket motor tubes prior to casting to
2 give form and shape to the propellant in the rocket motor tubes. Tigie Depo.
3 82:19-25; Calkins Decl. ¶67.

4 80. The cast and cure assemblies were GFE and used to cast propellant
5 into the rocket motor tubes. Trial Exs. 6564 (Propellant pouring photograph);
6 1629.0257-60; 2/24/10 AM Tr. 320:3-19 (Calkins); Calkins Decl. ¶ 68; Tigie
7 Depo. 84:9-16.

8 81. Fixtures were GFE and used to hold the casting mandrel to the rocket
9 motor and mandrel assembly. 2/25/10 AM Tr. 501:20-25 (Zoch); Trial Ex. 6551;
10 Zoch Decl. Table 1.

11 82. Jigs were GFE and were used to guide machine tools or to hold a
12 piece of work in place in the process of perchlorate. 2/25/10 AM Tr. 503:5-10
13 (Zoch); Trial Ex. 6551; Zoch Decl., ¶¶ 87-92 and Table 1.

14 83. Compression molds were GFE and were used as a “shape onto which
15 a material could be placed or into which a material could be injected to form an
16 object.” 2/25/10 AM Tr. 503:22-25 (Zoch); Trial Ex. 6551; Zoch Decl. Table 1.

17 84. Compression molds were also used to push down the propellant after
18 casting and curing process. Tigie Depo. 85:4-15.

19 85. Dies and tools were GFE and were used to shape the ends of the
20 propellant grain in the manufacture of rocket motors. 2/25/10 AM Tr. 519:3-
21 520:4, 520:12-20, 522:20-523:2 (Zoch).

22 **3. There Were “Disposals” and “Releases to the Environment”**
23 **of Perchlorate and Solvent Waste at the GFE**

24 86. Generation, disposal, and release of perchlorate and VOC waste
25 resulted from the use of the specialized government furnished equipment and
26 tooling, including mandrels, cast and cure assemblies, jigs, molds, fixtures, and
27 grinders. 2/25/10 AM Tr. 501:12-502:4, 504:14-18, 518:14-520:20 (Zoch).

28

1 87. The manufacture of Sidewinder and Chaparral rocket motors resulted
2 in the generation of 300 pounds of waste propellant per day when the Saugus plant
3 was operating at full capacity. Trial Ex. 168.

4 88. Grinding of perchlorate was required to be conducted according to
5 Government specification. Tigie Depo. 26:1-27:5, 257:2-260:12 and Trial Ex. 18.

6 89. Grinders, such as the Government owned and furnished Crusher,
7 Multi-Swing Hammer, were used to grind ammonium perchlorate to Government
8 specified sizes for use in rocket motors. Tigie Depo. 26:9-18, 26:19-27:5; Calkins
9 Decl. ¶ 66; 2/24/10 AM Tr. 272:10-273:2; 273:18-274:2 (Calkins); Trial Ex.
10 503.0002.

11 90. The grinders created perchlorate dust, which was collected in either
12 the bag house or fell to the floor. Tigie Depo. 27:6-19, and 127:25-128:22; 3/2/10
13 AM Tr. 982:21-23 (McLane).

14 91. Perchlorate dust accumulated on the grinders and the grinders were
15 cleaned with VOCs. 2/25/10 PM Tr. 574:10-575:9 (Zoch).

16 92. Perchlorate dust could have blown out of the grinding buildings or
17 been carried outside on the clothing or shoes of Bermite employees.

18 93. The bag house was a type of vacuum that captured airborne
19 perchlorate dust in the grinding buildings. Tigie Depo. 31:14-24; 2/25/10 AM Tr.
20 522:10-17 (Zoch).

21 94. Approximately 150 pounds of ammonium perchlorate dust was
22 collected in the bag house every week. Trial Ex. 281.

23 95. The bag house was washed out and the waste water from the bag
24 house was placed in a drum and burned in a burn pit. Tigie Depo. 31:4-13; 131:2-
25 17; 2/25/10 AM Tr. 531:25-532:4 (Zoch). The transfer of materials from one
26 vessel to another routinely results in releases of the material transferred. 2/25/10
27 PM Tr. 562:22-563:4 and 573:15-25 (Zoch). The bag houses were regularly
28 emptied. They were located outside the grinding building. 3/2/10 PM Tr.

1 1063:17-19 and 1067:8-13 (McLane). Any spills from transferring dust from the
2 bag houses to drums would have occurred on ground outside the grinding building.

3 96. Bermite employees swept up 2 or 3 pounds perchlorate dust that
4 accumulated on the floor of the grinding building. Tigie Depo. 26:7-18, 28:7-18,
5 and 128:11-22.

6 97. The remaining perchlorate dust on the walls and floors was washed
7 out from the grinding buildings to the bare ground. Tigie Depo. 27:20-28:6,
8 31:25-32:17, 47:14-23, 128:24-130:13; 2/25/10 AM Tr. 530:24-531:3 (Zoch);
9 2/25/10 Tr. 569:5-20 (Zoch); 3/2/10 PM Tr. 1000:7-10 (McLane).

10 98. Perchlorate that was washed out of the grinding buildings was a
11 release into the environment. 3/2/10 AM Tr. 1000:7-10 (McLane); 3/2/10 PM Tr.
12 1068:17-19 (McLane).

13 99. Every week, approximately 30 gallons of water mixed with
14 ammonium perchlorate was washed out of Building 308, a grinding building. Trial
15 Ex. 281.

16 100. Mixers were used to mix and heat the chemicals to make the
17 propellant for the rocket motors. Tigie Depo. 43:10-45:17.

18 101. For each batch of 25 rocket motors, Bermite employees used 10 to 15
19 gallons of a VOC to rinse out remaining perchlorate to clean the mixer. Tigie
20 Depo. 47:24-48:23 and 138:25-140:22.

21 102. The VOC used to clean the mixers was collected in drums. The
22 collected VOC was a mixture of solvent and perchlorate. Tigie Depo. 148:5-19.

23 103. Bermite employees used water to wash the perchlorate dust generated
24 from the mixer out of the building and onto the ground. Tigie Depo. 148:5-149:4.

25 104. Mandrels were placed in the rocket motor tubes prior to casting to
26 give form and shape to the propellant in the rocket motor tubes. Tigie Depo.
27 82:19-25.

28

1 105. Mandrels were removed from the rocket motor tube after cast and
2 cure. Tigie Depo. 83:1-4.

3 106. The mandrels had a pound or two of propellant on the knob after it
4 was extracted from the cast and cure assembly. Tigie Depo. 83:5-14; 2/25/10 AM
5 Tr. 507:5-17 (Zoch).

6 107. Bermite employees used a VOC to clean and remove propellant from
7 the mandrels. Tigie Depo. 83:5-84:19, 85:1-3, 151:8-14.

8 108. The waste propellant and VOC rags from the mandrels were placed in
9 drums and burned. Tigie Depo. 83:15-18; 2/25/10 AM Tr. 499:11-17, 528:25-
10 529:24 (Zoch).

11 109. The cast and cure assembly was configured to generate excess
12 propellant. Trial Ex. 1629.0257-58, 1629.0274; Tigie Depo. 84:20-22.

13 110. The excess propellant from the cast and cure assembly accumulated
14 near the casting spider and on the aft end of the rocket motor. 2/24/10 AM Tr.
15 285:18-287:13 (Calkins).

16 111. After the casting process, the excess propellant was scooped off the
17 top of the tube and placed in drums. Tigie Depo. 50:2-19.

18 112. After the propellant was removed from the cast and cure assemblies,
19 the cast and cure assemblies were cleaned with TCE. Tigie Depo. 84:9-22, and
20 85:23-24.

21 113. The casting pot and chandelier were also cleaned with TCE. Tigie
22 Depo. 49:16-22.

23 114. Compression molds generated excess propellant. After the excess
24 propellant was removed, the compression molds were cleaned with TCE. Tigie
25 Depo. 85:16-24; 2/25/10 AM Tr. 511:20-512:8 (Zoch).

26 115. Perchlorate dust and waste was generated from sanding out the rocket
27 motor tubes. The dust and waste were placed in a drum for disposal. Tigie Depo.
28 53:16-22.

1 116. A pound or two of propellant remained on the jigs after their use in
2 Building 317, the final assembly building, and was washed into the 317
3 impoundment. 2/25/10 AM Tr. 503:17-21, 508:5-510:6 (Zoch).

4 **4. There Is Contamination Around The Buildings Where GFE**
5 **Was Used and Where Waste from GFE Was Burned**

6 117. Perchlorate grinding occurred in Buildings 308, 313, and 314. 3/2/10
7 PM Tr. 1062:23-1063:5, 1071:18-1072:17 (McLane).

8 118. Perchlorate stained the ground around the grinding buildings. Tigue
9 Depo. 158:2-159:10.

10 119. Significant levels of perchlorate and VOC contamination exist around
11 these buildings. Trial Exs. 6539A and 3044 (McLane August 2009 Report) at 30.

12 120. Drums filled with perchlorate waste and solvent waste were taken to
13 Burn Valley and burned. Tigue Depo. 30:15-31:13, 50:12-24, 83:10-18, and
14 84:23-25.

15 121. Significant levels of perchlorate and VOC contamination exist in Burn
16 Valley. Trial Ex. 6539A; Trial Ex. 3044 (McLane August 2009 Report) at 13;
17 Trial Ex. 3045 (McLane December 2009 Report) at 20.

18 122. Casting and curing of rocket motors occurred in Buildings 306 and
19 307. 3/2/10 PM Tr. 1073:18-24 (McLane).

20 123. Soils near Buildings 306 and 307 are heavily contaminated with
21 perchlorate. Trial Ex. 6539A; 3/2/10 PM Tr.1073:22-1074:9 (McLane).

22 **H. Contamination Resulted From the “Hogging Out” Procedures**
23 **Used on Recycled and New Rockets**

24 **1. Bermite Hogged Out Rocket Motors Owned by the**
25 **Government under the Recycling Contracts**

26 124. Pursuant to Delivery Orders issued under the 1975 BOA for
27 refurbishing and recycling rocket motors, the United States sent its rocket motors
28

1 to Bermite to have the propellant removed from the rocket motor tube and to have
2 more propellant cast into the rocket motor. Trial Ex. 66.

3 125. The United States owned the Chaparral rocket motors that the Army
4 Missile Command took from its inventory and sent to Bermite for repairing,
5 refurbishing, and recycling. 2/23/10 AM Tr. 92:10-1 (Government Opening); 2009
6 Moore Depo. 227:4-228:4; Calkins Decl. ¶ 76; Trial Ex. 66; Deposition of Jay
7 Brigham 96:8-16; 98:15-25 (“Brigham Depo.”); 2/25/10 PM Tr. 588:20-589:1
8 (Zoch).

9 126. The surviving Delivery Order for the 1975 BOA contained a
10 government-authored Scope of Work that provided for the removal of old
11 propellant from the rocket motor tubes. Trial Ex. 67.

12 127. In the Scope of Work, the Government stated that the “most suitable”
13 method for the removal of propellant was “the use of high pressure (approximately
14 3,000 psi) water.” Trial Ex. 67. Bermite in fact used high pressure water to
15 remove perchlorate from rocket motors that were hogged out. Tigie Depo. 64:1-
16 65:2, and 67:14-25.

17 128. The method for removing propellant waste generated perchlorate
18 waste. 2009 Moore Depo. 233:13-20; Tamada Depo. 74:19-25; Tigie Depo. 63:2-
19 65:22.

20 129. The United States issued multiple Delivery Orders under the Basic
21 Ordering Agreement with a total value of approximately \$1.1 million. Trial
22 Exs. 1320, 1726, and 6608.

23 130. Approximately 1,100 Chaparral rocket motors were hogged out under
24 the 1975 Basic Ordering Agreement. Trial Ex. 67; Zoch Decl. ¶ 68.

25 131. Each rocket motor contained approximately 50 pounds of perchlorate.
26 Trial Ex. 1171.0001.

27
28

1 132. The refurbishing of Chaparral rocket motors resulted in the intentional
2 disposal of approximately 55,000 pounds of perchlorate, assuming that
3 approximately 1,100 motors were hogged out. Trial Exs. 67 and 6554.

4 133. The United States owned the rocket motors and the propellant
5 contained within them prior to removal from the refurbished rocket motors. Moore
6 Depo. 227:4-228:4; Trial Ex. 66; 2/23/10 AM Tr. 92:10-13 (Government
7 Opening).

8 134. The United States owned the perchlorate in the rocket motors,
9 including that from the hog-out process. 2/25/10 PM Tr. 588:20-589:1 (Zoch).

10 135. The United States Government authorized the transfer and use of
11 Government Furnished Equipment used in the manufacture of rocket motors,
12 including mandrels and the cast and cure assemblies, for use on the 1975 BOA to
13 refurbish and recycle rocket motors. Trial Exs. 1209 and 1975.

14
15 **2. Bermite Hogged Out Rejected New Rocket Motors Which**
16 **Were Government Owned by Virtue of the Vesting Clause**

17 136. The final assembly process for rocket motors required an x-ray to
18 ensure that no air bubbles were trapped in the propellant mix. PTCO Stip. #7.

19 137. Under applicable contracts and regulations, Bermite was required to
20 remove, or “hog-out” propellant from rockets that failed to satisfy specifications.
21 Tighe Depo. 52:25-53:2, and 61:15-63:1; Calkins Decl. ¶ 83; 2/25/10 PM Tr.
22 590:14-23 (Zoch).

23 138. A conservative estimate of one percent of rocket motors failed to
24 satisfy the United States Government’s specifications. Between approximately
25 101 (testimony) and 238 (declaration) rocket motors were required to be hogged-
26 out after propellant was loaded into the rocket motor tube. Zoch Decl. Calc. 1
27 (p. 11), ¶ 61; 2/25/10 PM Tr. 591:2-592:9 (Zoch).

28

1 139. The propellant contained within and removed from the rejected rocket
2 motors was material owned by the United States under the Progress Payment
3 provisions. Trial Exs. 1696.0129-132 and 6558.

4 140. The United States intended that Bermite dispose of propellant hogged-
5 out of new rocket motors that failed to meet specifications. Trial Exs. 6566,
6 61.0162; Calkins Decl. ¶ 77.

7 141. The disposal of perchlorate from rejected, in-progress rocket motors
8 was an expected consequence of the contracts that the United States entered into
9 with Bermite.

10 **3. There Were “Disposals” and “Releases to the Environment”**
11 **of Perchlorate and Solvent Waste as a Result of the Hog**
12 **Outs**

13 142. Bermite employees performed hog-outs under a metal lean-to over a
14 concrete slab. The lean-to had no walls and was open to the environment. Tigie
15 Depo. 63:2-12; Ferrett Depo. 72:11-73:2; Pierson Depo. 79:10-14; Trial Ex. 670.

16 143. The United States Government advised Bermite that using high-
17 pressure water (3,000 psi) was the most suitable method to remove propellant from
18 the rocket motors. Trial Ex. 67.0007.

19 144. After Bermite soaked the rocket motors in oakite, Bermite employees
20 used high pressure water to remove the propellant from the Government’s rocket
21 motors. Tigie Depo. 64:1-65:2; 67:14-25.

22 145. Perchlorate is highly soluble in water. 2/25/10 PM Tr. 596:21-597
23 (Zoch).

24 146. Water containing perchlorate from the hog-out process flowed across
25 the ground from the hog-out area and collected in the 317 impoundment. 2002
26 Peach Depo. 87:13-89:24; Tigie Depo. 65:12-15; 2/25/10 PM Tr. 597:13-22
27 (Zoch).

28

1 147. A cement incliner or gutter allowed water to drain from the hog-out
2 area to the pond. Tigie Depo. 65:17-22; 2009 Peach Depo. 98:3-98:18, 99:11-15,
3 and 100:24-101:7.

4 148. Initially, the 317 sump was not lined. Bermite lined the 317 sump
5 after the law changed in the late 1970's. 2/25/10 PM Tr. 597:23-598:5 (Zoch).
6 Water contained in the impoundment could seep into soils below the
7 impoundment, along with any perchlorate dissolved in the water. 2/25/10 PM Tr.
8 598:19-599:16 (Zoch).

9 149. The 317 impoundment overflowed when it rained and the water
10 containing perchlorate ran onto the ground. 2/23/10 AM Tr. 120:8-14
11 (Government Opening); 2/25/10 PM Tr. 598:11-599:16 (Zoch).

12 150. During the hog-out process, some propellant was released to the
13 environment when splatters occurred or when propellant fell to the ground and
14 escaped the hog out pad. Tigie Depo. 204:20-25, 206:19-208:17, 209:20-23, and
15 210:25-212:19.

16 151. Propellant from the hog out was collected, placed in a drum and
17 burned. Tigie Depo. 205:1-7.

18 152. In 1983, the sump was replaced with the tank farm, which was built
19 over the former 317 sump. Pierson Depo. 81:14-82:4 and Trial Ex. 670.

20 **4. There Is Contamination Around The Area Where Hog Outs**
21 **Occurred**

22 153. Perchlorate contamination occurred near the hog-out area and the 317
23 impoundment. Trial Exs. 6539A and 3044 (McLane August 2009 Report) at 30;
24 2/25/10 PM Tr. 598:11-22 (Zoch). 2/23/10 PM Tr. 83:5-13 (Government concedes
25 impoundment 317 "is one of the most heavily contaminated areas for both
26 perchlorate and volatile organic compounds . . .")
27
28

1 **I. Contamination Resulted From Burning of Hazardous Waste in**
2 **the Burn Valley**

3 154. Bermite burned perchlorate waste in a designated burn area in the
4 Burn Valley. 2009 Peach 77:5-15. This burning included much of the solid
5 perchlorate or propellant waste disposed at GFE and subsequently drummed, as
6 discussed above. Tigue Depo. 30:15-31:13; 50:12-24; 83:10-18; 84:23-25; 205:1-7.

7 155. Burning of perchlorate-containing propellant waste occurred in the
8 Burn Valley over many years. Bermite began using this area to burn propellant
9 waste prior to 1974. Trial Ex. 3044 (McLane August 2009 Report) at 44-45.

10 156. Some of the highest perchlorate soil concentrations at the site have
11 been reported in the Burn Valley. Trial Ex. 3044 (McLane August 2009 Report) at
12 13.

13 157. During the years 1974-80, Bermite did not burn propellant waste on-
14 site due to permit limitations on open burning. During these years, Bermite instead
15 sought alternative sites for disposal of its propellant and other waste, and obtained
16 permission from Fort Irwin Military Reservation (“Fort Irwin”) in Ft. Irwin, CA to
17 burn and detonate waste at its range from 1974 to 1980. PTCO Stip. #8.
18 (Contamination of the site nevertheless continued to occur during these years due
19 to releases of liquid waste, possible releases from drums and test-firing of rocket
20 motors.)

21 158. Bermite was unable to use Fort Irwin for disposal of its waste
22 (including its perchlorate-containing waste) for approximately one year during this
23 period. Trial Ex. 272 (April 22, 1980 Letter from Defense Logistics Agency to
24 Commander Naval Air Sys. Command).

25 159. By 1980, Bermite was storing as much as 100,000 pounds of
26 propellant at its plant. Trial Ex. 108. Much of the build up of waste was
27 attributable to waste unloaded from Chaparral rocket motors sent to Bermite by the
28 Army under the 1975 BOA. Trial Ex. 1296.

1 160. During the period of December 1980 to March 1981, Bermite, with
2 the permission of local authorities, burned approximately 50,000 pounds of
3 perchlorate-containing propellant (equivalent to approximately 34,000 pounds of
4 pure perchlorate) in the burn area. Trial Ex. 1108; Zoch Decl. ¶ 101.

5 **J. Contamination Resulted From Mandated Static Testing of New**
6 **Rocket Motors**

7 161. The Government mandated the testing of the Sidewinder and
8 Chaparral missiles and observed their testing. Deposition of Robert Little (“Little
9 Depo.”) 114:9-15.

10 162. The United States Government owned the rocket motors, including
11 the propellant that was tested under the progress payment/title vesting provision in
12 the rocket motor contracts. Trial Ex. 6558.

13 163. Bermite conducted its rocket motor static test fire near Building 353.
14 Trial Ex. 6539A; 2/24/10 AM Tr. 300:8-12 (Calkins); 3/2/10 PM Tr. 1061:12-21
15 (McLane).

16 164. Bermite test-fired approximately 950 rocket motors under
17 specification set forth in the companies’ contracts with the United States. Zoch
18 Decl. ¶ 60.

19 165. The rocket motors in question contained approximately 47,000
20 pounds of perchlorate. Much of this perchlorate was burned as part of the test-
21 firing. Trial Ex. 6553.

22 166. The rocket motors were locked in and exhaust came out of the rocket
23 motors. 2/24/10 AM Tr. 300:14-18; 321:2-10 (Calkins); Tr. Ex. 6564.

24 167. Perchlorate contamination exists in the test-fire area. Trial Ex. 3044
25 (McLane August 2009 Report) at 26.

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1 **K. Contamination Resulted From the Manufacture/Testing of the**
2 **GAU-8 PGU-14 Armor Piercing Incendiary Ammunition**

3 **1. The Honeywell Subcontract for PGU-14 Ammunition**

4 168. During the late 1970s, Bermite entered into a subcontract with
5 Honeywell to manufacture and test ammunition for the GAU-8 gun for the United
6 States Air Force. Calkins Decl. ¶¶ 99-102.

7 169. Bermite manufactured the ignitor mix, IB-52, for the following GAU-
8 8 ammunition: target practice (“TP”), high explosive incendiary and PGU-14.
9 2/24/10 AM Tr. 317:24-319:20 (Calkins). PGU-14 refers to armor piercing
10 incendiary (API) 30mm ammunition used by the Air Force’s GAU-8 gun. Calkins
11 Decl. ¶¶ 99-102; 2/24/10 AM Tr. 310:1-9 (Calkins), 3/2/10 PM Tr. 1085:1–
12 1092:19 (Williams).

13 170. The PGU-14 projectiles contained at their core a depleted uranium rod
14 made from a raw uranium substance known as UF₄ or UF₆ (hereafter, “raw
15 depleted uranium”). Williams Decl. ¶ 5; 3/2/10 PM Tr. 1090:18-1091:18
16 (Williams).

17 171. Bermite was responsible for loading, assembling and packing the
18 GAU-8 ammunition, including for the PGU-14. 3/2/10 PM Tr. 1091:3–1092:25
19 (Williams).

20 **2. The Government Furnished the Depleted Uranium and Test**
21 **Barrel For the PGU-14**

22 172. The Air Force furnished Honeywell with Government owned raw
23 depleted uranium which was placed inside the core of the PGU-14 projectile.
24 Williams Decl. ¶¶ 5, 8-9 (Government supplied raw uranium UF₄ or UF₆). 3/2/10
25 PM Tr. 1085:20-1086:4 (Williams: Government owned depleted uranium at time it
26 furnished it to contractor); Tr. Ex. 6613 § 3.1.1 (Honeywell Specification re GAU-
27 14 listing raw uranium UF₄ as “Government Furnished Items”);
28

1 173. The PGU-14 core or “penetrator” was one of the component pieces
2 that was provided to Bermite for final assembly. 3/2/10 PM Tr. 1088:21–1091:2
3 (Williams) and Tr. Ex 845.0043; Williams Decl. ¶ 7 (“Whittaker-Bermite received
4 pre-encapsulated DU projectiles manufactured by Honeywell.”).

5 174. Because Bermite was responsible for the final assembly of all of the
6 PGU-14 component pieces, Bermite was responsible for testing the PGU-14. The
7 Government required testing of the ammunition at the site. 2/23/10 PM Tr. at
8 212:12-19 (Calkins). Testing was accomplished by actually shooting the PGU-14
9 projectiles. 3/2/10 PM Tr. 1091:3-1091:18 (Williams); Calkins Decl. ¶ 101.

10 175. Bermite was supplied with a government-owned 30mm cannon
11 (known as a “barrel”) and a test fixture upon which to mount the barrel in order to
12 perform required testing of the PGU-14. Calkins Decl. ¶101; 2/23/10 PM Tr.
13 215:13-218:3 (Calkins); 2/24/10 AM Tr. 304:3-20 (Calkins); Trial Ex. 592.0004
14 (1977 specification for the IB-52 pellets used for the 30mm GAU-8 ammunition,
15 provided that the test barrel and fixture would be “Government furnished items”).

16 **3. There were “Disposals” and “Releases to the Environment”**
17 **of Depleted Uranium as a Result of the Test Firing of the**
18 **PGU-14 Ammunition**

19 176. The testing of the PGU-14 ammunition was accomplished by shooting
20 the PGU-14 projectiles (that contained the depleted uranium core) at the Bermite
21 facility. 3/2/10 PM Tr. 1091:3-18 (Williams: “Q. They shot the actual depleted
22 uranium in order to test it at Bermite? A. Correct.”); Calkins Decl. ¶ 101; 2/24/10
23 AM Tr. 302:1-18 (Calkins).

24 177. Bermite employees mounted the barrel to the test fixture and fired
25 rounds of the PGU-14 into a bullet catch as required under applicable contracts and
26 subcontracts. Calkins Decl. ¶102; Calkins Decl. ¶ 101; 2/24/10 AM Tr. 302:1-18
27 (Calkins).

28

1 178. Subsequent investigation revealed the presence of radioactive
2 depleted uranium in the area of the bullet catch. The remaining depleted uranium
3 consists of shards of shattered rounds fired from the 30 mm barrel supplied by the
4 Government. Trial Ex. 595.

5 **L. Bermite’s Waste Disposal Practices Were Mandated by the**
6 **Government, and Subject to Government Inspection and**
7 **Supervision**

8 **1. The Government Understood that Bermite’s Contracts with**
9 **the Government Resulted in the Creation and Disposal of**
10 **Hazardous Waste**

11 179. In April 1980, the Government acknowledged that Bermite was
12 generating large amounts of waste material during manufacturing processes for the
13 Government, that much of the waste was from Government-furnished explosive
14 materials and that finding a way to dispose of the waste was a potentially serious
15 problem. Trial Ex. 272.

16 **2. Government Mandated Disposal Procedures**

17 180. Bermite was required to comply with the Department of Defense
18 Contractors’ Safety Manual for Ammunition, Explosives and Related Dangerous
19 Materials DOD 4145.26M (“DOD Safety Manual”) with respect to all contracts
20 Bermite entered into with the United States Military. 2/26/10 AM Tr. 717:13-
21 719:9 (Tamada); Calkins Decl. ¶ 93.

22 181. The surviving rocket motor contracts either expressly stated that
23 Bermite “shall comply with DOD 4145.26M” or incorporated ASPR 7-104.79(a)
24 by reference. ASPR 7-104.79(a) mandated that a contractor “shall comply” with
25 the DOD Safety Manual. King Depo. 73:7-75:5; 2/26/10 AM Tr. 717:13-719:9
26 (Tamada); Calkins Decl., ¶ 93; Trial Ex. 6600 (ASPR 7-104.79(a)). Trial Ex.
27 1047.0020 (contract stating Bermite shall comply with DOD 4145.26M).

28

1 Contracts incorporating ASPR 7-104.79(a) by reference: Trial Exs. 1696.0045-46,
2 14.0031, 66.0037, 1237.0040, 92.0059, 1241.0058, 1694.0067, and Ex. 1423.0024.

3 182. The 1968 DOD Safety Manual was in effect from 1968 until 1986.
4 2/26/10 AM Tr. 719:11-21(Tamada) and 3/2/10 AM Tr. 923:20-22 (Wright).

5 183. Provisions in the DOD Safety Manual preceded by the words “shall”
6 or “must” were mandatory; the contractor did not have any choice about
7 compliance. 2/26/10 AM Tr. 721:24-722:4 (Tamada).

8 184. Provisions in the DOD Safety Manual preceded by the words “may”
9 or “should” were recommendations. However, a contractor could choose not to
10 comply only if the contractor made a record of the deviation and furnished a record
11 of the deviation to the Administrative Contracting Officer (ACO). 3/2/10 AM Tr.
12 913:7-23 (Wright) and Trial Ex. 61.0006.

13 185. The United States Government required the destruction of waste
14 explosives by specified means because such materials implicated national defense
15 and the Government could not allow such materials to “fall into the wrong hands.”
16 3/2/10 AM Tr. 916:17-23 (Wright: “you don’t want those energetic items to fall
17 into the wrong hands.”). The disposal (by destruction) of excess N-29 propellant
18 was required by the Government in order to “demilitarize” the propellant. 3/2/10
19 AM Tr. 921:18-922:23 (Wright).

20 186. Section 1503 of the DOD Safety Manual authorized destruction by
21 only four methods: dumping at sea, detonation, neutralization or burning. 3/2/10
22 AM Tr. 916:24-917:8 (Wright) and Tr. Ex. 61.0162.

23 187. From 1968 through 1986, Bermite’s only viable option for complying
24 with the DOD destruction requirement with respect to its excess or waste
25 propellant was through burning because dumping at sea was no longer permitted
26 (3/2/10 AM Tr. 917:20-918:2 (Wright)), neutralization was not effective (3/2/10
27 AM Tr. 920:4-921:20(Wright)), and detonation was not permitted in California
28 (Tr. Ex. 185; King Depo. 73:4-6).

1 188. With respect to the burning of waste, the 1968 DOD manual contained
2 numerous provisions mandating how the contractor could conduct burnings (e.g.,
3 not in containers or on concrete, with fire equipment readily available), where the
4 contractor could conduct burns (e.g., minimum distances from buildings,
5 prevailing winds must blow sparks in specified direction) and when the burns
6 could occur (non-windy days and not within 24 hours unless the burn area is
7 soaked with water). The contractor did not have the discretion to deviate from
8 such mandates. 3/2/10 AM Tr. 925:11-931:6 (Wright). Trial Ex. 61.0162-0167.

9 189. The 1968 DOD Safety Manual mandated that contractors use “sumps,
10 settling bed or leaching pits” to avoid contamination to local streams. Trial Ex.
11 61.0159.

12 190. The 1968 DOD Safety Manual provided that contractors working with
13 water soluble explosives should sweep their floors and then wash them down with
14 a “sufficient volume [of water] to assure complete dissolution of the material.”
15 Trial Ex. 61.0159-61.0160.

16 17 **3. The DCAS Enforced the Government Mandated Disposal** 18 **Procedures**

19 191. From at least 1968 to 1986, the Defense Contractor’s Administrative
20 Services, known as the “DCAS,” was the arm of the United States Government
21 charged with ensuring that contractors complied with the DOD Safety Manual.
22 2/26/10 AM Tr. 719:22-720:3 (Tamada: ensuring compliance with the DOD
23 Manual was one of DCAS’ “primary responsibilities”); King Depo. 29:2-25, 43:3-
24 46:5.

25 192. DCAS maintained an office at the Site, and oversaw operations on
26 every shift, including when Bermite employees were working overtime. Calkins
27 Decl. ¶¶ 87-88.

28

1 193. There were always at least three DCAS inspectors deployed at the
2 Berrite Site, and sometimes as many as ten to twelve. Calkins Decl. ¶ 88.

3 194. DCAS inspectors inspected Berrite's burn pit to ensure compliance
4 with all DOD Safety Manual requirements. King Depo. 18:15-20:12, 52:14-54:11,
5 72:1-14; 2/26/10 AM Tr. 722:13-21 (Tamada).

6 195. DCAS inspectors inspected the hog-out area where propellant was
7 removed from the motor casings. 2/26/10 AM Tr. 722:22-723:2 (Tamada), King
8 Depo. 72:15-24.

9 196. DCAS inspected Berrite facilities to ensure that different types of
10 wastes were segregated properly and placed in appropriate containers by Berrite
11 employees. King Depo. 50:5-52:10.

12 197. DCAS inspectors conducted surveys at Berrite to ensure that Berrite
13 was in compliance with the requirements of the DOD Safety Manual. King Depo.
14 32:23-33:1, 43:3-46:5 and Trial Exs. 61, 125, and 148.

15 198. DCAS conducted safety surveys of Berrite in 1982 and 1983, which
16 included review of disposal of explosive wastes, inspections of the burn area and
17 hog-out area, and review of Berrite's permits, including those for burning
18 operations. King Depo. 52:14-54:11, 61:2-73:3, 81:3-87:6, 105:13-107:21 and
19 Trial Ex. 148.

20 **M. AISLIC Has Incurred Necessary Response Costs As a Result of**
21 **the Releases**

22 199. The Site was closed in approximately 1987. PTCO Ex. A Chronology
23 (Document No. 112-3), p. 7.

24 200. On November 21, 1994, Whittaker and the California Department of
25 Toxic Substances Control ("DTSC") entered into a Consent Order related to
26 contamination at the Site. PTCO Stip. #14.

27 201. On November 29, 2000, Castaic Lake Water Agency ("CLWA") and
28 several water companies filed suit against Whittaker and others seeking cost

1 recovery under CERCLA, the HSAA, and tort theories in an action titled *Castaic*
2 *Lake Water Agency, et al. v. Whittaker Corp., et. al.*, Case Number CV-00-12613
3 AHM (the “CLWA litigation”). PTCO Stip. #11.

4 202. In the CLWA litigation, this Court held that Whittaker was a
5 responsible party under CERCLA and liable for the perchlorate contamination in
6 the water companies’ wells. PTCO Stip. #12.

7 203. AISLIC issued a policy to Whittaker Corporation (“Whittaker”)
8 identified as Pollution Legal Liability Select/Cleanup Cost Cap Policy No. PLS
9 267-9186 (the “Policy”). Trial Ex. 353 (the Policy).

10 204. To remediate perchlorate and VOC contamination at the Bermite Site,
11 AISLIC has incurred response costs that are necessary and consistent with the
12 National Contingency Plan. 2/24/10 PM Tr. 404:21-405:15 (on p. 405: 9-11
13 Government concedes only minor expenditures as to certain specific costs are
14 disputed by Government; Government does not dispute otherwise).

15 **II. CONCLUSIONS OF LAW**

16 **A. Jurisdiction**

17 205. This Court has exclusive jurisdiction over this action for response and
18 reimbursement costs pursuant to Section 113(b) of CERCLA, 42 U.S.C. § 9613(b).

19 206. Because the Court has found in the *Castaic Lake Water Agency* case,
20 and AISLIC does not dispute, that Whittaker is a responsible party under Section
21 107(a), AISLIC is a contribution plaintiff under Section 113(f)(1), which provides
22 that, “[a]ny person may seek contribution from any other person who is liable or
23 potentially liable under section 9607(a) of this title, during or following any civil
24 action under section 9606 of this title or under section 9607(a) of this title.” 42
25 U.S.C. § 9613(f)(1).

26 207. This Court has jurisdiction over AISLIC’s request for declaratory
27 judgment pursuant to the Declaratory Judgment Act, 28 U.S.C. § 2201 and Section
28 113(g)(2) of CERCLA, 42 U.S.C. § 9613(g)(2).

1 208. This Court has venue pursuant to Section 113(b) of CERCLA, 42
2 U.S.C. § 9613(b) because the Defendant United States may be found in this
3 judicial district, and because the releases or threatened releases of hazardous
4 substances occurred in this district.

5 **B. Elements for Cost Recovery and Contribution Claims**

6 209. AISLIC, which seeks only contribution from the United States (not
7 joint and several liability), has asserted claims for cost recovery and contribution
8 under CERCLA §§ 107(a) and 113(f), 42 U.S.C. §§ 9607(a) and 9613(f). In order
9 to prevail on these claims, AISLIC must prove:

10 (1) that the contaminants of concern are hazardous substances;

11 (2) that there has been a release or threatened release of hazardous
12 substances at a facility;

13 (3) that the release or threatened release has caused AISLIC to
14 incur (or to reimburse others who have incurred) necessary response costs
15 consistent with the National Contingency Plan (“NCP”); and

16 (4) that the United States falls within one of the classes of persons
17 subject to CERCLA liability, *i.e.*, it owned a facility at which hazardous substances
18 were disposed of at the time of disposal or it arranged for the disposal of certain
19 hazardous substances, or both. *Castaic Lake Water Agency v. Whittaker Corp.*,
20 272 F. Supp. 2d 1053, 1059 (C.D. Cal. 2003), citing *Carson Harbor Vill., Ltd. v.*
21 *Unocal Corp.*, 270 F.3d 863, 870-71 (9th Cir. 2001); *Steadfast Ins. Co. v. United*
22 *States*, No. CV 06-4686, at 1 (C.D. Cal. Oct. 2, 2009) (Order denying AISLIC’s
23 motion for partial summary judgment).

24 210. A right of contribution exists only in favor of a party that has paid
25 more than its share of a common liability. *See United States v. Atlantic Research*
26 *Corp.*, 127 S. Ct. 2331, 2338 (2007) (“a PRP’s right to contribution under §
27 113(f)(1) is contingent upon an inequitable distribution of liability among liable
28 parties”); *Sun Co. v. Browning-Ferris, Inc.*, 124 F.3d 1187, 1194 (10th Cir. 1997)

1 (“PRPs . . . may recover from other PRPs that portion of their cleanup costs which
2 exceeds their pro rata share.”).

3 211. The Defendant United States of America is a “person” as defined by
4 Section 101(21) of CERCLA, 42 U.S.C. § 9601(21). *FMC Corp. v. U.S. Dep’t of*
5 *Commerce*, 786 F. Supp. 471, 485 (E.D. Pa. 1992), *aff’d*, 29 F.3d 833, 840 (3d Cir.
6 1994).

7 212. The parties have stipulated that AISLIC has incurred at least some
8 necessary costs consistent with the national consistency plan. *See* Trial Day 6 at
9 1136:4-7. The Court bifurcated liability and allocation issues for trial, and this
10 Order does not address the extent to which AISLIC’s response costs are necessary
11 or consistent with the National Consistency Plan, which are issues in dispute.

12 **C. Standard of Proof**

13 213. “In situations like the present case, the type of evidence, be it direct or
14 circumstantial, and its quality, is to some degree impeded by the passage of time
15 and the lack of business records reflecting the day-to-day operations of the
16 industries then present at the . . . Site. The available evidence of who did what at
17 the relevant site is often dependent on inference.” *Niagara Mohawk Power Corp.*
18 *v. Chevron USA, Inc.*, 596 F.3d 112, 131 (2d Cir. 2010). For that reason, “[w]hen
19 determining CERCLA liability, ‘there is nothing objectionable in basing findings
20 solely on circumstantial evidence, especially where the passage of time has made
21 direct evidence difficult or impossible to obtain.’” *Id.*, quoting *Franklin County*
22 *Convention Facilities Auth. v. Am. Premier Underwriters, Inc.*, 240 F.3d 534, 547
23 (6th Cir. 2001).

24 **D. Hazardous Substances**

25 214. The statute defines the term “hazardous substance” to mean, among
26 other things, “any element, compound, mixture, solution, or substance designated
27 pursuant to section 9602 of this title,” and “any hazardous waste having the
28

1 characteristics identified under or listed pursuant to section 3001 of the Solid
2 Waste Disposal Act [42 U.S.C. § 6921]....” 42 U.S.C. § 9601(14) (B), (C).

3 215. The parties have agreed that the following are hazardous substances
4 within the meaning of 42 U.S.C. § 9601(14):

- 5 • perchlorate, including ammonium perchlorate and
- 6 potassium perchlorate;
- 7 • trichloroethylene (TCE);
- 8 • perchloroethylene (PCE);
- 9 • trichloroethane (TCA); and
- 10 • depleted uranium (DU).

11 Stipulation Regarding Alleged Hazardous Substances filed February 12, 2010
12 (Document No. 115, filed 2/12/10).

13 **E. Release**

14 216. The second element of liability for a cost response or contribution
15 claim is a release or threatened release of hazardous substances from a facility.
16 CERCLA § 107(a)(4), 42 U.S.C. § 9607(a)(4). The term “release” is broadly
17 defined as “any spilling, leaking, pumping, pouring, emitting, emptying,
18 discharging, injecting, escaping, leaching, dumping, or disposing into the
19 environment” 42 U.S.C. § 9601(22).

20 217. Perchlorate and certain VOCs (at least oakite and TCE) were released
21 at various parts of the Bermite site, including (among others) the hog-out area and
22 impoundment, the burn area and various manufacturing areas and equipment.

23 218. DU was released in the area where 30 mm armor-piercing, incendiary
24 ammunition for use in the GAU-8 cannon was test-fired.

25 **F. Owner Liability**

26 219. The defendant must fall within a class of persons subject to CERCLA
27 liability. One such class consists of owners at the time of disposal of hazardous
28 substances.

1 220. An owner includes “any person who at the time of disposal of any
2 hazardous substance owned . . . any facility at which such hazardous substances
3 were disposed of.” 42 U.S.C. § 9607(a)(2). Thus, in order to establish this claim,
4 there must be a (1) a “facility” (2) owned by the United States; (3) at which
5 “disposal” occurred.

6 **1. Definition of Facility**

7 221. CERCLA defines a “facility” as “(A) any building, structure,
8 installation, equipment, pipe or pipeline . . . , well, pit, pond, lagoon,
9 impoundment, ditch, landfill, storage container, motor vehicle, rolling stock, or
10 aircraft, or (B) any site or area where a hazardous substance has been deposited,
11 stored, disposed of, or placed, or otherwise come to be located” 42 U.S.C. §
12 9601(9). The term “facility” has been broadly construed. *Uniroyal Chem. Co. v.*
13 *Deltech Corp.*, 160 F.3d 238, 245 (5th Cir. 1998) (“it is apparent that facility is
14 defined in the broadest possible terms”).

15 222. There may be several “facilities” at a site for purposes of CERCLA,
16 including separately owned “equipment” within a larger facility. *Elf Atochem N.*
17 *Am. Inc. v. United States*, 868 F. Supp. 707, 709-10 (E.D. Pa. 1994) (machines
18 used to make DDT owned by the Government and leased to plaintiff were
19 “facilities”); *FMC Corp. v U.S. Dep’t of Commerce*, 786 F. Supp. at 486 (factory
20 was a facility and installations, equipment, pipes and pipelines owned by the
21 Government were also facilities at which there had been a disposal); *see also*
22 *Atchison, Topeka & Santa Fe Ry. Co. v. Brown & Bryant, Inc.*, 1995 WL 866395
23 (E.D. Cal. Nov. 15, 1995) (railcars were separate facilities from property).

24 **2. Definition of Owner**

25 223. CERCLA gives no definition of “owner.” *Long Beach Unified School*
26 *Distr. v. Dorothy B. Godwin California Living Trust*, 32 F.3d 1364, 1368 (9th Cir.
27 1994). Instead, courts read CERCLA as incorporating common law definitions of
28 its terms. *Id.* Thus, this Court looks to California law to determine whether a party

1 is an “owner.” *City of Grass Valley v. Newmont Mining Corp.*, 2007 WL 4287603
2 at *4 (E.D. Cal. Dec. 4, 2007).

3 224. Under CERCLA, “an owner of equipment necessary to the operation
4 of the [factory] line is no less an ‘owner’ than a part-owner of land.” *United States*
5 *v. Saporito*, 684 F. Supp. 2d 1043, 1057 (N.D. Ill. 2010).

6 **3. Definition of Disposal**

7 225. In order for an owner of facilities to be liable, there must be a disposal
8 of hazardous substance at or from those facilities. *See* 42 U.S.C. § 9607(a).

9 226. The term “disposal” is defined broadly under the statute to mean “the
10 discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid
11 waste or hazardous waste into or on any land or water so that such solid waste or
12 hazardous waste or any constituent thereof may enter the environment or be
13 emitted into the air or discharged into any waters, including ground waters.” 42
14 U.S.C. § 9601(29) (incorporating the definition of the term set forth in Section
15 1004 of the Solid Waste Disposal Act, 42 U.S.C. § 6903(3)); *Castaic Lake*, 272 F.
16 Supp. 2d at 1069.

17 227. A disposal can take place at facilities that are “equipment.” *Elf*
18 *Atochem*, 868 F. Supp. at 711 (“this disposal is a disposal at a facility”); *see also*
19 *Webster’s Third New International Dictionary* at 136 (1981 ed.) (“at” is “used as a
20 function word to indicate presence in, on or near”).

21 228. Disposal does not require immediate exposure to the environment. *Elf*
22 *Atochem*, 868 F. Supp. at 711; *Reading Co. v. City of Philadelphia*, 823 F. Supp.
23 1218, 1236 (E.D. Pa. 1993); *BCW Associates, Ltd. v. Occidental Chem. Corp.*,
24 1988 WL 102641 (E.D. Pa. Sept. 29, 1988); *Emhart Industries, Inc. v. Duracell*
25 *Int’l, Inc.*, 665 F. Supp. 549, 574 (M.D. Tenn. 1987).

26 229. Thus, where excess chemicals were piped from a US-owned machine
27 inside a building to a non-US owned waste pond outside the building, the court
28 reasoned: “The precise question at bar is whether the United States disposed of

1 waste when it discharged hazardous materials from its equipment or whether there
2 was no disposal until the materials entered the waste pond.” *Elf Atochem*, 868 F.
3 Supp. at 710. The court concluded, “[W]hen each of the waste streams left the
4 United States’ equipment it was being sent to the pipes as a means of getting rid of
5 it, transferring it, throwing it out; in other words, disposing of it. We hold that this
6 disposal is a disposal at a facility under §9607.” *Id.* at 711.

7 230. “The statute does not on its face provide that a release into the
8 environment must be ‘direct.’” *Lincoln Properties, Ltd, v. Higgins*, 1993 WL
9 217429 at *19-20 (E.D. Cal. Jan. 21, 1993) (“there is no authority in the case law
10 for the proposition that a release into the soil or ground water must be ‘direct.’”);
11 *Differential Dev.-1994, Ltd.*, 470 F. Supp. 2d at 748; *Elf Atochem*, 868 F. Supp. at
12 712.

13 231. Thus, “[t]he cases have made clear that depositing or discharging a
14 hazardous substance into a sewer, a container or other ‘facility’ from which the
15 substance subsequently leaks or spills is a ‘disposal’ of hazardous substances that
16 will subject the depositor or discharger to liability” *Differential Dev.-1994,*
17 *Ltd. v. Harkrider Distrib. Co.*, 470 F. Supp. 2d 727, 748 (S.D. Tex. 2007).
18 Materials that are spilled onto the floor during the manufacturing process are also
19 disposed of. *Amland Properties Corp. v. Aluminum Co. of America*, 711 F. Supp.
20 784, 792 (D.N.J. 1989).

21 232. During trial, the Government cited two cases on these issues. 3/3/10
22 AM Tr. 1165:24-25; 1166:2-3 (Government Closing). The first case on which the
23 Government relies, *Mead v. United States*, 1994 WL 733567 (S.D. Ohio Jan. 14,
24 1994), reasons that “there is no evidence of a release directly from Government-
25 owned facilities.” *Mead* has been cited only once on this issue– by a case that
26 disagreed with it. *Elf Atochem*, 868 F. Supp. at 712 (other cases “more persuasive
27 than *Mead*”). In any event, there were releases from the government-owned
28 facilities here.

1 233. The second case cited by the Government at trial, *ACC Chemical Co.*
2 *v. Halliburton Co.*, 932 F. Supp. 233 (S.D. Iowa 1995), held that a truck used to
3 pump hazardous materials is not a “facility” within the meaning of CERCLA. This
4 is inconsistent with *Elf Atochem* and other cases that have held that equipment used
5 in manufacturing can be a “facility” under CERCLA. *United States v. Saporito*,
6 684 F. Supp. 2d 1043, 1057-58 (N.D. Ill. 2010); *FMC Corp. v. United States*
7 *Dep’t of Commerce*, 786 F. Supp. at 478, 486 (E.D. Pa. 1992), *aff’d* 29 F.3d 842
8 (3d Cir. 1994).

9 **4. Disposal at Government Furnished Equipment**

10 234. The mandrels, grinding machines, cast and cure assemblies, fixtures
11 and molds, dies and tools and other items used by Bermite in the manufacture and
12 refurbishment of rocket engines are “facilities” because they are “equipment.” 42
13 U.S.C. § 9601(9)(A).

14 235. The Government owned the mandrels, grinders, cast and cure
15 assemblies, fixtures and molds, dies and tools that were provided to Whittaker as
16 Government Furnished Equipment (“GFE”).

17 236. The Government Furnished Equipment was used in the manufacture
18 or refurbishment of rocket engines pursuant to Whittaker’s contracts with the
19 Government. Whittaker made its contracts conditional on the provision of the
20 Government Furnished Equipment. A witness called by the Government stated at
21 trial that the Government would not furnish property in the first place unless the
22 contractor established a need for it in order to carry out the provisions of the
23 contract. 2/26/10 AM Tr. 694:16-695:5 (Tamada). From this it is reasonable to
24 infer that Whittaker used the GFE in its manufacturing processes.

25 237. “The [plaintiff] need not present evidence showing that any specific
26 piece of equipment [the defendant] owned was responsible for specific releases of
27 hazardous chemicals or specific cleanup costs.” *United States v. Saporito*, 684 F.
28

1 Supp. 2d at 1056. It is enough that the components owned by the defendant were
2 “a necessary part” of the manufacturing process. *Id.*

3 238. The Government Furnished Equipment was a necessary part of the
4 process of manufacturing motor engines. 2/24/10 AM Tr. 279:16-19 (Calkins: “Q.
5 Basically, you are saying Bermite couldn’t make rocket motors without the
6 government-furnished equipment; is that right? A. Yes. That’s right.”). The
7 process relied on the grinders, mandrels, cast and cure assembly and other items
8 supplied as GFE. These specialized items of equipment were supplied by the
9 Government based on the assertion that they were necessary for the manufacture of
10 rocket engines.

11 239. There were disposals of hazardous substances at the GFE. There were
12 disposals of perchlorate at the GFE when excess perchlorate was discharged into
13 the air, deposited on the floor, washed out of buildings, removed to the baghouse,
14 or placed in drums for burning as waste. In each case, the perchlorate became
15 waste to be discarded when it left the GFE.

16 240. Similarly, there were disposals of hazardous substances at the GFE
17 when certain Volatile Organic Compounds were used to remove perchlorate and
18 then placed in drums for burning. If there was leakage, this would have been a
19 disposal. *Cf. Differential Dev.-1994, Ltd. v. Harkrider Distrib. Co.*, 470 F. Supp.
20 2d 727, 748 (S.D. Tex. 2007).

21 241. The disposal of the hazardous substances at the GFE led immediately
22 or eventually to a “release” within the meaning of 42 U.S.C. §§ 9601(22) and
23 9607. The widespread perchlorate contamination shown in Exhibit 6539A
24 supports the conclusion that releases of perchlorate occurred at the Bermite site.
25 The “presence of hazardous substances at the sites at issue supports a
26 conclusion that releases have occurred on the sites.” *American Nat’l Bank & Trust*
27 *Co. v. Harcros Chems., Inc.*, 997 F. Supp. 994, 998 ((N.D. Ill. 1998). The
28

1 contamination surrounding the buildings where the GFE was used and at the burn
2 pit confirms that there were releases of these materials.

3 242. Because the GFE was a necessary part of the manufacturing process
4 and disposals of hazardous substances occurred at the GFE, the Government is
5 liable as an owner based upon its ownership of this equipment.

6 **5. Rocket Motors As Facilities**

7 243. Rocket engines can be “facilities,” because they are “equipment.” 42
8 U.S.C. § 9601(9)(A). Equipment is defined as “the set of articles or physical
9 resources serving to equip a person or thing. . . .” *Merriam-Webster’s Collegiate*
10 *Dictionary* 392 (10th ed. 2001). A rocket engine serves to equip a rocket, and
11 hence is “equipment.”

12 244. Rocket engines also can be “facilities” because they serve as “storage
13 containers” for the perchlorate until the propellant is either removed during
14 manufacture (or recycling) or burned during launch of the rocket. 42 U.S.C. §
15 9601(9)(A). “Storage” means a “space or a place for storing.” *Merriam Webster’s*
16 *Collegiate Dictionary* 1156 (10th ed. 2001). A “container” is “one that contains:
17 *esp.* a receptacle (as a box or jar) for holding goods.” *Id.* at 249. A rocket engine
18 functions as a place for storing the propellant until it is burned.

19 245. The term “facility” has been “broadly construed by the courts.”
20 *California v. Blech*, 976 F.2d 525, 527 n.1 (9th Cir. 1992) (citation and internal
21 quotes omitted). “[I]n order to show that an area is a ‘facility,’ the plaintiff need
22 only show that a hazardous substance under CERCLA is placed there or has
23 otherwise come to be located there.” *Id.* (citation and internal quotations omitted).

24 246. Thus, the Court concludes that at the site at issue here a rocket engine
25 containing a hazardous substance was a “facility” within the meaning of CERCLA.

1 **6. Government Ownership of Rocket Motors**

2 247. The United States owned the rocket engines brought to Bermite for
3 refurbishment and recycling pursuant to the Basic Ordering Agreements entered
4 into in 1975 and 1982.

5 248. The United States also owned the new rocket engines in the process of
6 assembly.

7 249. Under the Title Vesting clause in the Progress Payment Section in
8 each contract, the United States held absolute title to the materials, inventory, work
9 in process, special tooling and nondurable tools used in the manufacturing of
10 rocket engines. This included the rocket engines under assembly, which were
11 “inventory” or “work in process.”

12 250. Through this Title Vesting Clause, the Government obtained absolute
13 title to – and hence ownership of – the rocket motors under assembly. *Northrop*
14 *Grumman Corp. v. County of Los Angeles*, 134 Cal. App. 4th 424, 433 (Ct. App.
15 2d Dist. 2005), *cert. denied*, 549 U.S. 817 (2006).

16 251. The United States has suggested that the Title Vesting Clause may
17 give the United States only a security interest in the inventory. However, in other
18 cases, the United States has consistently argued that such provisions vest the
19 Government with ownership. In a thorough opinion, the Seventh Circuit adopts a
20 literal reading of the Title Vesting Clause. *In re American Pouch Foods*, 769 F.2d
21 1190 (7th Cir. 1985), *cert denied*, 475 U.S. 1082 (1986).

22 252. A host of bankruptcy courts have taken the same view. *In re*
23 *Economy Cab and Tool Co.*, 47 B.R. 708 (Bankr. D. Minn. 1985); *In re Reynolds*
24 *Mfg. Co.*, 68 B.R. 219 (Bankr. W. D. Pa. 1986); *In re Wincom*, 76 B.R. 1 (Bankr.
25 Mass. 1987).

26 253. Most recently, the California Court of Appeals has held that the State
27 of California could not collect *ad valorem* taxes on the materials used on a
28 government contract because they were owned by the federal government: “We

1 disagree with the County’s interpretation. Title means title. Title does not mean
2 lien. Because the County cannot tax property owned by the United States, it must
3 refund the taxes paid by the contractor on property allocated to the performance of
4 its military contracts.” *Northrop Grumman Corp.*, 134 Cal. App. 4th at 428.

5 254. “A literal reading of the title-vesting provisions is particularly
6 compelling in the context of military contracts, when the contracted-for goods are
7 needed for national defense.” *Id.* at 433 (internal citations omitted). “A literal
8 reading of the title-vesting clause affords the federal government protection from
9 detrimental protracted litigation over war material because absolute title is superior
10 to the interests claimed by secured creditors of bankruptcy trustees.” *Id.*

11 255. The Government points out that there is a 1982 decision of the Court
12 of Claims that gives the United States only a security interest in the property.
13 3/3/10 AM Tr. 1189:24-25 (Government Closing citing *Marine Midland Bank v.*
14 *United States*, 687 F.2d 395, 399 (Ct. Cl. 1982)). “*Marine Midland* is squarely the
15 minority view on title-vesting clauses and is unlikely to be followed outside the
16 Federal Court of Claims’ jurisdiction.” M. Sainsbury, *Seeking One Rule to Bind*
17 *Them: Unifying the Interpretation and Treatment of the “Title-Vesting” Language*
18 *of the Progress Payments Clause*, 32 PUB. CONTRACT. L.J. 327, 389 (2003).

19 256. Criminal cases concerning the theft of government property are not
20 apposite, because they rely on the rule of lenity to hold that, where there is any
21 disagreement in the underlying case law, the criminal defendant will be held not to
22 be on notice of a crime. *See United States v. Hartec Enterprises, Inc.*, 967 F.2d
23 130, 133 (5th Cir. 1992) (invoking rule of lenity).

24 257. The Government claims that *Northrop Grumman* relied on a 1997
25 statutory amendment. 3/3/10 AM Tr. 1191:8-10 (Government Closing citing the
26 National Defense Authorization Act for Fiscal Year 1998); *see* 10 U.S.C.
27 §2307(h). However, the *Northrup Grumman* case addressed tax years 1987
28 through 1995 – prior to the adoption of the 1997 amendment. The case does not

1 identify any change in the law: Congress merely “underscored the title-passing
2 effect of fixed price contracts by adding supportive language” in the 1997
3 amendment. 134 Cal. App. 4th at 432. The legislative history shows that
4 Congress believed it was confirming an existing interpretation. *See* M. Sainsbury,
5 *supra*, 32 PUB. CONTRACT. L.J. at 387, quoting S. Rep. No. 105-29, § 812 at 302
6 (1997) (amendment is intended “to clarify what has been the usual practice with
7 regard to federal agencies’ interpretation”).

8 258. In light of the Title Vesting Clause incorporated in each of the
9 Whittaker contracts for rocket motor manufacture, the Government owned the
10 rocket motors under assembly, prior to delivery.

11 **7. Disposal of Hazardous Substances From the Rocket Motors**

12 259. The hogging out of the rocket motors undergoing refurbishment
13 constituted a disposal of a hazardous substance from facilities owned by the
14 Government because it involved “the discharge, deposit, injection, dumping,
15 spilling, leaking, or placing of” excess perchlorate “into or on any land or water”
16 with the risk that it would enter the environment. 42 U.S.C. § 6903(3).

17 260. When a portion of the new rocket motors under assembly was rejected
18 for failure to meet specifications, the hogging out of those rejected motors
19 constituted a disposal of a hazardous substance from a government-owned facility
20 because it involved “the discharge, deposit, injection, dumping, spilling, leaking,
21 or placing of” excess perchlorate “into or on any land or water” with the risk that it
22 would enter the environment. *Id.*

23 261. “The cases have made clear that depositing or discharging a
24 hazardous substance into a sewer, a container, or other ‘facility’ from which the
25 substance subsequently leaks or spills is a ‘disposal’ of hazardous substances that
26 will subject the depositor or discharger to liability as a PRP.” *Differential Dev.-*
27 *1994, Ltd. v. Harkrider Distb. Co.*, 470 F. Supp. 2d 727, 748 (S.D. Tex. 2007).

28

1 262. When new rocket motors were test-fired, this constituted a disposal of
2 a hazardous substance (perchlorate) from government-owned facilities, because it
3 involved “discharge” or “injection” so that a hazardous substance “may enter the
4 environment or be emitted into the air or discharged into any waters. . . .” 42
5 U.S.C. § 6903(3).

6 263. The Government has cited *Miami-Dade County v. United States*, 345
7 F. Supp. 2d 1319 (S.D. Fla. 2004), as an example of a case where the disposal did
8 not occur at the equipment. In that case, “no hazardous substances were disposed
9 of or placed in the aircraft engines, parts, or containers.” *Id.* at 1340. In this case,
10 by contrast, the perchlorate was placed in the rocket motors and disposed of at
11 those facilities, whether through hogging out, test-firing or other processes during
12 manufacture.

13 **8. Disposal at Government-Owned Cannon**

14 264. The United States owned the GAU-8 cannon and its test fixture.

15 265. GAU-8 cannon and the test fixture upon which it was mounted were
16 “facilities” because they were “equipment.” 42 U.S.C. § 9601(9)(A).

17 266. When the GAU-8 fired 30MM rounds of API, the dispersal of the
18 Depleted Uranium shells into the air and dirt constituted a disposal from a
19 government-owned facility. 42 U.S.C. § 6903(3).

20 **9. Conclusion on Owner Liability**

21 267. Liability under CERCLA is strict. Pursuant to Section 107(a)(2) any
22 person who owned a facility at a time when hazardous substances were disposed of
23 there may be held liable if a release or threatened release occurs. *United States v.*
24 *Monsanto Co.*, 858 F.2d 160, 168 (4th Cir. 1988).

25 268. An owner of facilities at which a disposal of hazardous substances
26 occurs is liable under CERCLA regardless of whether it had any control over the
27 disposal activities. *Lincoln Props., Ltd. v. Higgins*, 823 F. Supp. 1528, 1533 (E.D.
28

1 Cal. 1992) (citing *United States v. A&N Cleaners and Launderers*, 788 F. Supp.
2 1317, 1332 (S.D.N.Y. 1992)).

3 269. Disposals of hazardous substances took place at various facilities
4 owned by the United States. It is therefore liable as an owner under 42 U.S.C. §
5 9607(a)(2).

6 **G. Arranger Liability**

7 **1. Definition of Arranger**

8 270. The second pertinent class of persons potentially liable under the
9 statute -- arrangers -- encompasses “any person who by contract, agreement, or
10 otherwise arranged for disposal or treatment, or arranged with a transporter for
11 transport for disposal or treatment, of hazardous substances owned or possessed by
12 such person, by any other party or entity, at any facility or incineration vessel
13 owned or operated by another party or entity and containing such hazardous
14 substances.” 42 U.S.C. § 9607(a)(3).

15 271. “[W]hether an entity is an arranger requires a fact-intensive inquiry
16 that looks beyond the parties’ characterization of the transaction as a ‘disposal’ or a
17 ‘sale’ and seeks to discern whether the arrangement was one Congress intended to
18 fall within the scope of CERCLA’s strict-liability provisions.” *Burlington N. &*
19 *Santa Fe Ry. Co. v. United States*, 129 S. Ct. 1870, 1879 (2009). “[T]he court
20 must ‘consider the totality of the circumstances . . . to determine whether the facts
21 [are] within CERCLA’s remedial scheme.’” *Steadfast*, Oct. 2, 2009, Order at 7,
22 quoting *Coeur D’Alene Tribe v. Asarco, Inc.*, 280 F. Supp. 2d 1094, 1131 (D.
23 Idaho 2003).

24 272. A party will qualify as an arranger when either the person “(1) own[s]
25 or possess[es] waste and arrange[s] for its disposal, or (2) [has] the authority to
26 control and to exercise some actual control over the disposal of the waste.”
27 *Steadfast*, Oct. 2, 2009 Order at 8; *Coeur D’Alene Tribe*, 280 F. Supp. 2d at 1132;

28

1 *Basic Management Inc. v. United States*, 569 F. Supp. 2d 1106, 1116 (D. Nev.
2 2008).

3 **2. Continuous Ownership Not Required for Arranger**

4 273. An owner of a hazardous substance who arranges for its disposal by
5 another party may be held liable as an arranger. 42 U.S.C. § 9607(a)(3).

6 274. Continuous ownership of the hazardous substance during the process
7 of disposal is not required for arranger liability. For example, a person who enters
8 into a sale – and thereby gives up ownership – “with the intention that at least a
9 portion of the product be disposed of during the transfer process” may be held
10 liable as an arranger. *Burlington N. & Santa Fe Ry. v. United States*, 129 S. Ct. at
11 1880.

12 275. The Ninth Circuit has specifically held that continued ownership is
13 not required for arranger liability. *Catellus Dev. Corp v. United States*, 34 F.3d
14 748 (9th Cir. 1994).

15 276. The Ninth Circuit has recently reaffirmed *Catellus*. See *California*
16 *Dep’t of Toxic Substances Control v. Alco Pacific, Inc.*, 508 F.3d 930, 935-36 (9th
17 Cir. 2007).

18 **3. Arranger Liability Based on Ownership of Perchlorate**

19 277. When the Government delivered rocket engines to the Bermite plant
20 for refurbishing and recycling, the Government owned the rocket engines and the
21 perchlorate within them.

22 278. Through its Basic Ordering Agreement, the United States required
23 Bermite to hog-out the original propellant from the engines undergoing
24 refurbishment. The United States intended that perchlorate be removed from the
25 engines and discarded as waste. Thus, the United States arranged for the disposal
26 of the perchlorate in the recycled engines. *Burlington N. & Santa Fe Ry. v. United*
27 *States*, 129 S. Ct. at 1880.

28

1 279. By virtue of the title-vesting provisions in its contracts for the
2 manufacture of new rocket engines, the United States owned the “materials”
3 allocated to the contracts. Once perchlorate was purchased and allocated to one of
4 the rocket motor contracts, the United States held absolute title to and an
5 ownership interest in this “material.”

6 280. Further, pursuant to the title-vesting provisions of the contracts for
7 new rocket engines, the United States owned the “work in process” and
8 “inventory” allocable to each contract and hence owned the rocket engines prior to
9 delivery. Once the perchlorate was inserted within one of these engines, the
10 United States owned the perchlorate.

11 281. The United States required that any rocket engine that did not meet
12 the specifications in its contracts be rejected and that any perchlorate within it be
13 “hogged out” and disposed of. Thus, the United States arranged for the disposal of
14 the perchlorate that it owned in the rejected rocket engines.

15 282. The United States required that Whittaker test-fire certain of the
16 rocket engines. The United States intended that any perchlorate not burned
17 through the firing be disposed of through other means. Thus, the United States
18 arranged through the disposal of perchlorate through test-firing.

19 283. The United States contends that it is not liable as an arranger because
20 it did not own the perchlorate once it became waste. The United States has not
21 pointed to any clause in the title-vesting provisions that excepts “waste” from
22 Government ownership. 2/26/10 AM Tr. 745: 6-13 (Tamada). The courts favor a
23 literal interpretation of the title-vesting language. *See, e.g., Northrop Grumman*
24 *Corp.*, 134 Cal. App. 4th at 433.

25 284. In any event, CERCLA does not require continued ownership for
26 arranger liability. *Catellus Dev. Corp. v. United States*, 34 F.3d at 752. In
27 *Catellus*, the Ninth Circuit held the initial owner of the defunct batteries liable as
28 an arranger even though that firm sold the batteries to a buyer and did not control

1 the “eventual disposition of their remnants.” *Id.* “We expressly rejected [the
2 defendant’s] argument that it could not be held liable as an arranger under
3 CERCLA because it did not control the eventual disposition of the batteries’
4 remnants.” *California Dep’t of Toxic Substances Control v. ALCO Pacific, Inc.*,
5 508 F.3d 930, 935 (9th Cir. 2007), *citing Catellus*, 34 F.3d at 752.

6 285. A person delivering raw materials should not be permitted to escape
7 liability by arguing that he owns only the chemical ultimately produced in a
8 process, but not its discarded waste. *See Levin Metals Corp v. Parr-Richmond*
9 *Terminal Co.*, 781 F. Supp. 1448 (N.D. Cal. 1991).

10 286. Here, the United States similarly owned the materials at the outset,
11 continued to own them during the manufacturing process, and received the finished
12 product, all with knowledge that processing would lead to hazardous wastes.
13 These facts distinguish this case from *Burlington N. & Santa Fe Ry. v. United*
14 *States, supra*, where the defendant was a seller of a useful product who completely
15 gave up ownership of the chemicals to the site operator. In that case, the question
16 was whether “Congress intended to impose liability on entities . . . when they
17 engage in legitimate sales of hazardous substances knowing that some disposal
18 may occur as a collateral consequence of the sale itself.” 129 S. Ct. at 1879-80.
19 In this case, by contrast, the Government did not sell its interests or any product. It
20 instead was a purchaser that acquired the rocket engines and perchlorate before the
21 disposal of the excess and retained that ownership interest through delivery of the
22 finished product just as in the processing cases discussed above.

23 287. The Government’s argument – that it is not liable because it did not
24 own the perchlorate after it became “waste” – would create a loophole in the
25 statute that could be exploited by other polluters, who could easily contract for a
26 shift in ownership. The Ninth Circuit has stated in addressing the scope of the
27 transporter provision: “We hesitate to endorse a statutory interpretation that would
28

1 leave a gaping and illogical hole in the statute’s coverage” *Pakootas v. Teck*
2 *Cominco Metals, Ltd.*, 452 F.3d 1066, 1081 (9th Cir. 2006).

3 288. The United States is liable as an arranger because it intentionally
4 arranged for the disposal of a hazardous substance, regardless of whether the
5 United States continued to own the “waste” during the process of disposal.

6 **4. Arranger Liability Based on Ownership of Volatile Organic**
7 **Compounds**

8 289. The United States also owned certain Volatile Organic Compounds
9 (VOCs) used in the manufacturing process, because they were “materials”
10 allocable to the contracts.

11 290. The United States required that VOCs that became mixed with
12 perchlorate be disposed of at the site. To the extent there were such VOCs, the
13 United States arranged for their disposal and is liable as an arranger.

14 **5. Arranger Liability Based on Ownership of Depleted**
15 **Uranium**

16 291. The raw uranium provided by the Government to Honeywell for use
17 in manufacturing the GAU-14 was Government Furnished Property. ASPR § 13-
18 101.1 and FAR 45.101.

19 292. As a result, the United States owned the depleted uranium within the
20 projectiles tested at Bermite.

21 293. The United States arranged for the test firing of the PGU-14, which
22 contained the depleted uranium, and hence arranged for the “discharge” of the
23 depleted uranium into the air or “deposit” into the ground. The United States
24 therefore arranged for the disposal of the depleted uranium.

25 **6. Arranger Liability Based on All Circumstances**

26 294. In deciding whether to impose arranger liability, a court may consider
27 the “totality of the circumstances.” *Steadfast*, Oct. 2, 2009, Order at 7 (citing
28

1 *Coeur D’Alene Tribe v. Asarco, Inc.*, 280 F. Supp. 2d at 1131). This may include
2 both elements of ownership and control.

3 295. For example, arranger liability may be imposed on defendants where
4 another company “is performing a process on products owned by defendants for
5 defendants’ benefit and at their direction” and defendants are aware that waste
6 products inherent in the process will need to be disposed of. *Aceto Agric. Chems.*
7 *Corp.*, 872 F.2d at 1379. *See California v. Verticare*, 1993 WL 245544 (N.D. Cal.
8 Mar. 1,1993); *Levin Metals Corp. v. Parr-Richmond Terminal Co.*, 781 F. Supp. at
9 1452.

10 296. The United States mandated the use of certain equipment, materials,
11 and methods; owned the hazardous “materials” once they were allocated to the
12 contract; owned the works in process; knew that the manufacturing process
13 generated waste materials; directed aspects of the method of disposal of those
14 materials and had the right to supervise the disposal process on site.

15 297. Based on the totality of circumstances, including the “ownership” and
16 “control” elements in combination with each other, the United States is liable as an
17 arranger in this case.

18 **H. Necessary Response Costs**

19 298. A CERCLA plaintiff must also show that the release or threatened
20 released has caused the plaintiff to bear or reimburse “necessary costs of response .
21 . . consistent with the national contingency plan (“NCP”).” CERCLA §
22 107(a)(4)(B), 42 U.S.C. § 9607(a)(4)(B). The Government has agreed that
23 AISLIC has been forced at bear at least some costs fitting that description.

24 299. “The traditional tort concept of causation plays little or no role in the
25 liability scheme.” *Niagara Mohawk Power Corp. v. Chevron USA Inc.*, 596 F.3d
26 at 131.

27 300. “In the case of an actual release, the plaintiff need only prove that the
28 defendant's hazardous materials were deposited at the site, that there was a release
at the site, and that the release caused it to incur response costs. It need not show

1 that defendant's waste was the source of the release or that defendant's waste
2 caused it to incur response costs.” *Carson Harbor Village Ltd. v. Unocal Corp.*,
3 287 F. Supp. 2d 1118, 1186 (C.D. Cal. 2003). *See also Santa Clara Valley Water*
4 *Dist. v. Olin Corp.*, 655 F. Supp. 2d 1048, 1057 (N.D. Cal. 2009) (“Cases within
5 the Ninth Circuit support the conclusion that a CERCLA *prima facie* case requires
6 a plaintiff to show that a release caused the incurrence of some response costs but
7 it does not require that the release cause all of the recoverable response costs.”).

6 **III. CONCLUSION**

7 301. The United States is liable under 42 U.S.C. §9607(a)(2) as an owner
8 of facilities at which disposal of hazardous substances took place and under 42
9 U.S.C. §9607(a)(3) as a person who arranged for disposal of hazardous substances.

10 302. The questions of quantity of necessary response costs and allocation
11 of damages among the parties are reserved for future proceedings.

12 **A. Proviso**

13 The Court recognizes that some of the above listed Findings of Fact may also be
14 Conclusions of Law. Similarly, some of the Conclusions of Law may also be
15 Findings of Fact.



16
17
18 Dated: June 30, 2010

19 _____
20 A. Howard Matz
21 United States District Judge
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