UNITED STATES DISTRICT COURT FOR THE
DISTRICT OF NEW MEXICO

STATE OF NEW MEXICO, *ex rel.* HECTOR BALDERAS, Attorney General, and the NEW MEXICO ENVIRONMENT DEPARTMENT,	§	Case No. _____
Plaintiffs,	§	Complaint
v.	§	
THE UNITED STATES and THE UNITED STATES DEPARTMENT OF THE AIR FORCE,	§	
Defendants.	§	

THE STATE OF NEW MEXICO, by and through New Mexico Attorney General Hector H. Balderas, and the New Mexico Environment Department (collectively, "Plaintiffs" or the "State"), file this Complaint against the above-named Defendants and in support thereof allege as follows:

INTRODUCTION AND STATEMENT OF THE CASE

1. This is a civil action by the State against Defendants United States and the U.S. Department of the Air Force (collectively, "Defendants") brought pursuant to the New Mexico Hazardous Waste Act, NMSA 1978, § 74-4-1 to -14.[1]

2. This action arises from the improper disposal of and failure to contain or address contaminants and hazardous wastes at Cannon Air Force Base ("Cannon"), located approximately

[1] Concurrent with the filing of this Complaint, Plaintiffs have issued a notice to Defendants under the Resource Conservation and Recovery Act ("RCRA") of their intent to bring a claim to remedy the imminent and substantial endangerment created by the conduct of Defendants described herein, and reserves the right to seek any additional remedies that may be available under the law, including but not limited to a claim for natural resource damages pursuant to Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA") §107(a)(4), 42 U.S.C. § 9607(a)(4).

seven miles southwest of Clovis, New Mexico and above the Ogallala Aquifer, and Holloman Air Force Base ("Holloman"), located in the Tularosa Basin between the Sacramento and San Andreas mountain ranges ten miles west of Alamogordo, New Mexico, by Defendants, resulting in contamination and pollution of the environment, including public and private water sources both on- and off-site, with per- and polyfluoroalkyl substances ("PFAS"), also known as fluorochemicals, such as perfluorooctanoic acid ("PFOA") and perfluorooctanesulfonic acid ("PFOS"), and other known or suspected toxic compounds.

3. Defendants' discharges and the resulting contamination at Cannon and Holloman have created an imminent and substantial endangerment to human health and the environment.

4. As a result of this ongoing and persistent contamination and pollution, the State seeks declaratory and injunctive relief, and reimbursement of past and future costs incurred by the State associated with these environmental and public health risks and injuries at Cannon and Holloman.

JURISDICTION AND VENUE

5. This Court has subject matter jurisdiction over this action under 28 U.S.C. § 1331.

6. This Court has the authority to grant declaratory relief, 28 U.S.C. § 2201, as well as further relief requested in this Complaint, including injunctive relief, 28 U.S.C. § 2202.

7. This Court has personal jurisdiction over Defendants as they conduct sufficient business with sufficient minimum contacts in the State, and/or intentionally subjected themselves to this jurisdiction through the commission of tortious activity within the State.

8. Venue is proper in the United States District Court for the District of New Mexico pursuant to 28 U.S.C. § 1391, because the acts described in this Complaint occurred in this judicial district.

PARTIES

Plaintiffs

9. Plaintiff, the New Mexico Environment Department ("NMED") is a state executive agency pursuant to the Department of Environment Act, NMSA 1978, §§ 9-7A-1 to -15. NMED is charged with the administration and enforcement of the New Mexico Hazardous Waste Act ("HWA") and the Hazardous Waste Management Regulations, 20.4.1-20.4.5 NMAC, and has authority to bring this lawsuit. NMSA 1978, § 74-1-6(A); NMSA 1978, § 74-4-13(A).

10. New Mexico Attorney General Hector Balderas, is the "attorney for the State of New Mexico," *State ex rel. Norvell v. Credit Bureau of Albuquerque, Inc.*, 1973-NMSC-087, ¶ 5, 85 N.M. 521, and his office is recognized in Article V, Section 1 of the New Mexico Constitution. The New Mexico Legislature has authorized the Attorney General to prosecute and defend, in any court, civil actions in which the State is a party, when, in his judgment, the interest of the State requires such an action. NMSA 1978, § 8-5-2; *State ex rel. Attorney Gen. v. Reese*, 1967-NMSC-172, ¶ 14, 78 N.M. 241, 245, 430 P.2d 399.

11. Plaintiffs bring these claims, in part, pursuant to their authority to guard against adverse environmental and health impacts and risks associated with contamination such as that which is present at Cannon and Holloman.

12. Under Article XX, Section 21 of the New Mexico Constitution, "protection of the state's beautiful and healthful environment is . . . declared to be of fundamental importance to the public interest, health, safety and the general welfare." This provision "recognizes that a public trust duty exists for the protection of New Mexico's natural resources . . . for the benefit of the people of this state." *Sanders-Reed ex rel. Sanders-Reed v. Martinez*, 350 P.3d 1221, 1225 (N.M. Ct. App. 2015).

Defendants

13. Defendant is the United States of America, including all federal government agencies and departments responsible for the acts alleged in this Complaint.

14. The Department of the Air Force is one of three military departments of the U.S. Department of Defense and is responsible for the administration and operation of the United States Air Force. The Department of the Air Force is and was at all times relevant to this Complaint the owner and operator of Cannon and Holloman.

GENERAL FACTUAL ALLEGATIONS

A. PFAS Background

15. PFAS comprise a family of approximately 3,500 manmade chemicals not found in nature that have been in use since the 1940s. The backbone of a PFAS chemical is a chain of carbon atoms, which may be fully (per) or partly (poly) fluorinated.

16. Due to their ability to repel heat, oil, stains, grease, and water, PFAS are found in a wide array of industrial and consumer products. Companies used PFAS to make, among other things, carpet, clothing, stain-resistant fabrics for furniture, paper packaging for food, and other materials such as cookware that are resistant to water, grease, or stains.

17. The two most recognized members of the PFAS family are PFOS and PFOA, which are long, eight-chain PFAS. PFOS and PFOA easily dissolve in water and thus they are mobile and readily spread in the environment. They are also persistent. PFOS and PFOA have degradation periods of years, decades, or longer under natural conditions and have a half-life in the human body of two to nine years.

18. PFOA and PFOS also readily contaminate soils and leach from soil into groundwater, where they can travel significant distances.

19. PFOS and PFOA are strong, stable, bioaccumulative, and biomagnifying, meaning that they resist degradation due to light, water, and biological processes and tend to accumulate in organisms up the food chain.

20. Further, PFOS and PFOA are toxic, meaning that they pose significant threats to public health and the environment. Exposure to PFOS and PFOA presents health risks even when PFOS and PFOA are ingested at seemingly low levels.

21. PFOS and PFOA exposure is associated with a variety of illnesses, including increased risk in humans of testicular cancer, kidney cancer, thyroid cancer, high cholesterol, ulcerative colitis, and pregnancy-induced hypertension, as well as other conditions. The chemicals are particularly dangerous for pregnant woman and young children.

22. Toxicology studies show that PFOS and PFOA are readily absorbed after oral exposure and are relatively stable once ingested so that they accumulate in individual organs for significant periods of time, primarily the serum, kidney, and liver.

23. Studies further found that individuals with occupational exposure to PFOA run higher risks of bladder and kidney cancer.

24. In studies involving laboratory animals, PFOA and PFOS exposure increased the risk of tumors, changed hormone levels, and affected the function of the liver, thyroid, pancreas, and the immune system.

25. The adverse effects associated with both PFOS and PFOA are additive when both chemicals are present, meaning that their individual adverse effects are cumulative.

26. However, injuries are not sudden and can arise months or years after exposure to PFOS and/or PFOA.

27. PFAS were formally identified as "emerging contaminants" by the U.S. Environmental Protection Agency ("EPA") in 2014. This term describes contaminants about which the scientific community, regulatory agencies, and the public have an evolving awareness regarding their movements in the environment and effects on public health. PFAS, like other emerging contaminants, are the focus of active research and study, which means new information is released periodically regarding the effects on the environment and human health as a result of exposure to the chemicals.

28. Six PFAS were included by the EPA in the Third Unregulated Contaminant Monitoring Rule per the 1996 Safe Drinking Water Act Amendments in May 2012. Monitoring of these substances was required between 2013 and 2015 to provide a basis for future regulatory action to protect public health.

29. According to the EPA, PFOA and PFOS pose potential adverse effects for the environment and human health. *See, e.g.*, U.S. EPA, *Technical Fact Sheet—Perfluorooctane Sulfonate (PFOS) and Perfluorooctanoic Acid (PFOA)* (Nov. 2017), *available at* https://www.epa.gov/sites/production/files/2017-12/documents/ffrrofactsheet_contaminants_pfos_pfoa_11-20-17_508_0.pdf.

30. In January 2009, EPA established a drinking water Provisional Health Advisory ("HA") level for PFOA and PFOS—two of the PFC compounds about which we have the most toxicological data. EPA set the Provisional HA level at 0.4 parts per billion ("ppb") for PFOA and 0.2 ppb for PFOS.

31. In 2016, following additional study, the EPA lowered the HA for PFOS and PFOA. EPA established the HA levels for PFOS and PFOA at 70 parts per trillion ("ppt"), or 0.07 micrograms per liter ("µg/L"). In addition, EPA, in issuing its 2016 HAs, directs that when both

PFOA and PFOS are found in drinking water, the *combined* concentrations of PFOA and PFOS should be compared with the 70 ppt HA.

32. In 2018, the Agency for Toxic Substances and Disease Registry ("ATSDR") released an updated Toxicological Profile for PFAS that revised its minimal risk levels ("MRLs") for PFOA and PFOS. An MRL is the estimated amount of a chemical a person can eat, drink, or breathe each day without a detectable risk to health. The intermediate oral (15 to 364 days) MRL for PFOA was revised from the previous level of $2x10^{-5}$ (0.00002) mg/kg/day to $3x10^{-6}$ (0.000003) mg/kg/day and for PFOS was revised from the previous level of $3x10^{-5}$ (0.00003) mg/kg/day to $2x10^{-6}$ (0.000002) mg/kg/day. These new MRLs were lowered because they now take into consideration immune system effects; the former thresholds were based only developmental health effects.

33. The EPA acknowledges that the studies associated with PFAS are ongoing and that based upon additional information, the HAs may be adjusted.

34. Additionally, at least four states, Vermont, California, Minnesota, and New Jersey, have adopted limits or health guidelines on PFAS that are lower than the current EPA HAs.

35. As of July 2018, the New Mexico Water Quality Control Commission voted to add PFOA and PFOS to the list of toxic pollutants the State regulates "at a risk-based level" of 70 ppt, matching the federal level. *See* 20.6.2.3103.A(2) and 20.6.2.7.T(2)(s) NMAC. New Mexico's Hazardous Waste Bureau, with the Ground Water Quality Bureau, developed the NMED Risk Assessment Guidance for Site Investigation and Remediation, which helps to determine if a site is contaminated to a point that warrants further investigation or action. The associated screening levels and soil screening levels were developed based on the standards found in 20.6.2.3103

NMAC. The Hazardous Waste Bureau uses those screening levels in its administration of the HWA and the Hazardous Waste Management Regulations.

36. Additional PFAS for which there are currently less scientific information include: Perfluorohexane sulfonic acid ("PFHxS"); Perfluorooctane sulfonamide ("PFOSA"); Perfluorononanoate acid ("PFNA"); Perfluorododecanoic acid ("PFDoA"); and Perfluorobutanesulfonic acid ("PFBS").

37. While more studies have been conducted and thus more is known regarding PFOS and PFOA, all PFAS have generally demonstrated similar characteristics to PFOS and PFOA.

38. By 2015, PFOA was voluntarily phased out of production by the major manufacturers. However early studies of the replacement PFAS indicate they are nearly as harmful. There are still some applications of traditional PFOA and PFOS and the chemicals are persistent in pre-existing products made prior to the phaseout.

B. PFAS in AFFF Used at Bases

39. In the 1960s, 3M Company and the U.S. Navy developed "aqueous film-foaming foam" ("AFFF"), a firefighting foam containing PFOS and PFOA. AFFF concentrate contains fluorochemicals used to meet required performance standards for fire extinguishing agents.

40. In the 1970s, military sites, civilian airports, and firefighting training centers began using AFFF worldwide.

41. The United States Air Force began purchasing and using AFFF-containing PFAS for firefighting training activities and petroleum fire extinguishment in 1970.

42. AFFF was primarily used on Air Force installations at fire training areas, but may have also been used, stored, or released from hangar fire suppression systems, at firefighting

equipment testing and maintenance areas, and during emergency response actions for fuel spills and mishaps.

43. A 1980s study by the U.S. Navy found that AFFF has "adverse effects environmentally" and kills aquatic life.

44. As early as 2011, the U.S. Department of Defense acknowledged that there was a PFAS crisis among its facilities. An internal study identified 594 military sites that were likely to have contaminated groundwater, although it was noted that this number may underestimate the problem by not including AFFF spills, pipeline leaks, or aircraft hangar fire suppression systems.

45. In March 2018, the military acknowledged that PFAS were present at 121 military sites and suspected at hundreds of others. At least 564 drinking water supplies in communities near military sites have PFAS levels that exceed EPA's HA.

46. The USAF is working to replace its current inventory of AFFF with more formations based on shorter carbon chains, such as Phos-Chek, a six-carbon chain ("C6") based foam that does not contain PFOS.

47. C6 PFAS are the most prominent replacements for traditional eight-carbon chain PFAS as they are thought to degrade faster. DuPont, one of the major consumers and producers of PFOA, has a spinoff company, Chemours, that manufactures the most well-known C6 product known as GenX.

48. C6 products are still PFAS and presents similar health and environmental concerns to longer-chain PFAS. In May 2015, 200 scientists signed the Madrid Statement, "which expresses concern about the production of all fluorochemicals, or PFAS, including those that have replaced PFOA. PFOA and its replacements are suspected to belong to a large class of artificial compounds called endocrine-disrupting chemicals; these compounds, which include chemicals used in the

production of pesticides, plastics, and gasoline, interfere with human reproduction and metabolism and cause cancer, thyroid problems and nervous system disorders." A. Blum et al., *The Madrid Statement on Poly-and Perfluoroalkyl Substances (PFASs)*, ENVIRON. HEALTH PERSPECT. 123:A107–A111 (2015), *available at* http://dx.doi.org/10.1289/ehp.1509934.

49. To the extent the Air Force intends to utilize this alternative, its use must similarly be compliant with applicable statutes and common laws that are protective of human health and the environment.

C. PFAS Contamination at New Mexico Air Force Bases

Cannon Air Force Base

50. Cannon is located in eastern New Mexico, near the city of Clovis. Cannon encompasses approximately 3,789 acres of land owned by the United States and hosts a population of roughly 7,800 people.

51. Clovis, New Mexico is a city with a population of approximately 39,000 that relies upon the Ogallala Aquifer for its potable water.

52. Cannon includes two perpendicular active runways in the central and southwest portions; maintenance, support, and operational facilities west of the central runway/flightline; supplemental hangars and apron areas in the south-central region; a wastewater treatment plant to the east; and a golf course and residential and service facilities in the northwest portion.

53. Adjacent land to Cannon includes mixed-use land utilized as residential, agricultural, and farmland to the north; agricultural and farmland to the east and south; and agricultural and open grassland to the west.

54. Cannon is an active military installation that currently houses the 27th Special Operation Wing, which conducts sensitive special missions including close air support, unmanned aerial vehicle operations, and non-standard aviation in response to the Secretary of Defense.

55. Cannon was developed in 1929 when Portair Field was established as a civilian passenger terminal. The Army Air Corps acquired control of the facility in 1942, and it became known as the Clovis Army Air Base. Clovis Army Air Base operated as an installation for aviation, bombing, and gunnery training until 1947 when the facility was deactivated. The Base was reactivated as Clovis Air Force Base in 1951 and became a permanent military installation in June 1957, when it was renamed Cannon Air Force Base.

56. Defendants have used AFFF at Cannon for more than fifty years in training and actual firefighting events at the base. During routine training exercises, AFFF was sprayed directly on the ground and/or tarmac at several fire training areas, allowing PFOA and PFOS to travel to the surrounding groundwater, causing contamination on and offsite. PFAS remains at very high concentrations in groundwater both on and off the base.

57. In addition to routine training for personnel, additional releases of PFAS-containing AFFF have occurred at Cannon through testing of the equipment, false alarms, equipment malfunctions, and other incidental releases in the hangars, fire stations, and other locations. Once the AFFF-containing PFAS was released into the environment, the contamination migrated off-site.

58. On July 26, 2017, Defendants provided NMED with a "*Site Inspection of Aqueous Film Forming Foam (AFFF) Release Areas Environmental Programs Worldwide Installation-Specific Work Plan*" for Cannon ("Cannon SI Work Plan"). The provision of this report to NMED was described "as a courtesy" in a July 27, 2017 letter to NMED.

59. The purpose of the Cannon SI Work Plan was to identify locations where PFAS may have been used and released into the environment and to provide an initial assessment of possible migration pathways and receptors of potential contamination.

60. The Cannon SI Work Plan identified thirteen AFFF release areas that were recommended for site investigation, although it did not preclude the presence of PFAS contamination at other areas throughout the site. The following areas are known to have confirmed releases of AFFF:

a. **Former Fire Training Area ("FTA") No. 2**—Former FTA No. 2 is located in the southeast corner of Cannon, approximately 1,000 feet south of the active FTA, and was used for fire training exercises from approximately 1968 to 1974. The area includes two round depressions in the land surface, each measuring approximately 100 feet in diameter. Fire training exercises were conducted twice per quarter using approximately 300 gallons of the unused jet propellant JP-4. No specific AFFF use was reported at Former FTA No. 2; however, since the FTA operated after initial use of AFFF at the base, it is likely that AFFF was used at this location.

b. **Former FTA No. 3**—Former FTA No. 3 is located in the southeast corner of the base, approximately 800 feet southeast of the active FTA, and was used concurrently with FTA No. 2 between approximately 1968 and 1972. Training exercises were conducted twice per quarter in an unlined, half-moon shaped area approximately 100 feet in length. No specific use of AFFF at Former FTA No. 2 was recorded; however, since the FTA operated after initial use of AFFF at the base, it is likely that AFFF was used at this location.

c. **Former FTA No. 4**—Former FTA No. 4 was used form 1974 through 1995 for fire training exercises. Training activities were conducted twice per quarter, during which an unknown volume of AFFF was used. FTA No. 4 consisted of an unlined circular area approximately 400 feet in diameter with a mock aircraft located in the center. Prior to 1985, the jet propellant JP-4 and AFFF runoff generated during fire training exercises collected in an unlined pit. The pit was backfilled in 1985 and a new, lined pit with an oil/water separator was installed to handle collected runoff. The oil/water separator was subsequently removed in 1996.

d. **Hangar 119**—General storage warehouse hangar located in the west central portion of the base, west of the flight apron, with three accidental AFFF releases. The first incident occurred in September 2006 when approximately 60 gallons of AFFF discharged into a storm drain after the AFFF system was accidentally activated, possibly due to a corroded valve. The second incident occurred in September 2012 when a "significant amount" of AFFF was discharged into bay number one and flowed onto asphalt on the north side of the structure between Hangar 119 and Building 102. Incident reports indicate that a "huge

amount" of AFFF entered a storm drain while the rest was left to evaporate. The third incident occurred in July 2013 when an unknown quantity of AFFF was discharged onto the concrete flight ramp outside of the bays, which convey liquid directly to the South Playa Lake. Due to the large quantity of AFFF released at Hangar 119, there is the potential that AFFF migrated to grassy areas to the south and southwest of the structure.

e. **Hangar 133**—Small aircraft hangar located in the west central portion of the base, immediately south of Hangar 119, with two additional AFFF releases. Several hundred gallons of AFFF were released during a scheduled rinsing of the hangar fire system in December 2000 and entered a nearby storm drain. Approximately 200 gallons of AFFF were released into a hangar bay following a power outage in July 2001. Most of the AFFF entered a floor trench and was routed to the wastewater treatment plan ("WWTP"); however, AFFF that did not enter the floor trench was washed into nearby infield soil and allowed to evaporate.

f. **Former Sewage Lagoon**—The former sewage lagoons consisted of two unlined surface impoundments that were used from 1966 to 1998 and received sanitary and industrial waste from base facilities prior to the construction of the WWTP. The former sewage lagoons would have received any AFFF that entered the sanitary sewer system from 1966 to 1998. Documented releases of AFFF to the sanitary system from Hangars 199 and 208 were reported prior to and during 1998. As such, there is evidence that AFFF was released to the environment at the former sewage lagoons.

g. **North Playa Lake Outfall**—North Playa Lake, located southeast of the WWTP, received all Cannon sanitary and industrial wastewater from 1943 to 1966. Currently, all treated effluent from the WWTPP is released primarily to North Playa Lake with a portion also released to the golf course for irrigation. Since there is no accepted wastewater treatment process for PFAS, any wastewater collected at the WWTP containing PFAS would be passed on to North Playa Lake.

h. **South Playa Lake Outfall**—South Playa Lake is located in the southwestern portion of Cannon and serves as the base's primary stormwater collection point. The lake has received stormwater runoff from portions of the flightline area since 1943. Solvents, fuels, oils, greases, and AFFF are all potential contaminants that would have discharged to the lake from the flightline area. Documented releases of AFFF in the hangars resulted in AFFF entering storm drains with liquid being subsequently routed to South Playa Lake.

i. **Hangar 109**—Parking and general maintenance hangar located in the west central portion of Cannon, with two accidental AFFF releases. The first release occurred in December 1999 when an office fire activated the AFFF fire suppression system, releasing approximately 500 gallons of AFFF in the hangar bay that reportedly entered the floor trench and was routed to the WWTP. No AFFF was reportedly released outside the hangar in 1999. A second release of approximately twenty-five gallons of AFFF solution occurred in 2016. Installation personnel identified that AFFF was released outside the hangar and was allowed to evaporate west and southwest of the hangar.

j. **Active FTA**—Active FTA located in the southeast portion of Cannon, immediately northwest of FT-07, FT-08, and FTA-4. The FTA became operational in 1997 and consists of a circular lined burn pit with a mockup of a large aircraft, a propane fuel tank, a control panel, and a lined evaporation pond. Fire training exercises are conducted at the active FTA approximately monthly using water or AFFF. The fire department also conducts annual vehicle foam checks at the FTA. Liquids discharged into the lined burn pit, including water and AFFF, drain to the lined evaporation pond located approximately 300 feet southwest of the pit and are left to evaporate. The liner of the evaporation pit has required repairs in the past, and breaches in the liner have allowed AFFF to infiltrate the soils beneath the liner. Additionally storms in May 2015 resulted in significant flash flooding across Cannon, which likely resulted in any residual AFFF located in the evaporation basin to overflow and be released in the surrounding environment.

k. **Landfill #4**—Closed landfill covering approximately 7 acres in the east central portion of Cannon that was only operational for one year between 1967 and 1968. The landfill received domestic and industrial wastes including solvents, paints, thinners, and waste oils. Disposal activities consisted of placing waste material into a trench, burning the accumulated waste, and then covering the burned material with soil. Due to the period of operation, AFFF would not have been included in landfilled refuse; however, the landfill cover was revegetated and used water from North Playa Lake, located immediately south of Landfill #4, which receives treated effluents from the WWTP.

l. **Perimeter Road Fuel Spill**—A fuel tanker truck overturned while traveling along Perimeter Road in the southeast corner of the base. All fuel from the tanker was released on the southeast side of the road. The fire department responded with crash trucks and reportedly sprayed AFFF on the fuel spill. The response was conducted over several days with multiple fire trucks discharging the entire supply of AFFF on the release. Contaminated soils were excavated, but the excavation depth is unknown.

m. **Flightline Crash Areas**—Three aircraft crashes have occurred along the flightline where the fire department responded with the use of AFFF. Two incidents involving F-16 aircraft were identified at the southern end of the flightline, and a third incident involving an F-111 aircraft occurred at the north end of the flightline. No information regarding the amount of AFFF released is known at this time.

n. **Whispering Winds Golf Course Outfall**—The base golf course began receiving a portion of treated effluent from the WWTP to fill ponds and irrigate the greens in approximately 2002. The golf course is irrigated five nights per week for approximately four hours using a sprinkler system. Any wastewater collected at the WWTP containing AFFF therefore could be released at the golf course.

o. **Hangar 204**—Hangar 204 was identified as an area for additional investigation due to the release of AFFF outside the structure; however, it was determined during a scoping visit that based on surface topography surrounding the hangar, any AFFF released from hangar doors would drain directly to storm drains in the apron or would evaporate on the concrete apron. Any AFFF that entered the storm drain would have been routed to South Playa

Lake. Infiltration of AFFF into soils in the vicinity of Hangar 204 was thus thought to be unlikely and, therefore, it was removed from further investigation.

61. In August 2018, Cannon submitted a "*Final Site Investigation Report, Investigation of Aqueous Film Foaming Foam Cannon Air Force Base, New Mexico*" to NMED ("Cannon SI Report"). As stated in the Cannon SI Report, exceedances of the EPA's HA of 70 ppt for groundwater were detected in six of the eighteen environmental restoration program monitoring wells at the base.

62. Fourteen AFFF release areas at Cannon were analyzed for PFAS contamination in the soil and groundwater. PFOS and PFOA concentrations in soil and sediment were compared against the regional screening level (RSL) of 0.126 mg/kg. Groundwater concentrations for PFOA and PFOS, or PFOA and PFOS combined, were compared against the EPA's HA of 70 ppt.

63. At Former FTA No. 3, PFOS was detected above the RSL in the surface sample at 0.24 mg/kg, nearly twice the RSL.

64. At Former FTA No. 4., PFOS was detected above the RSL in the surface soil samples at each of the three locations with the highest detected concentration being 0.61 mg/kg, nearly five times the RSL.

65. At Hangars 119 and 113, PFOS was detected above the RSL at each location with the highest detected concentration being 0.42 mg/kg, more than three times the RSL.

66. At the Former Sewage Lagoons, PFOS was detected above the RSL at two subsurface sample sites with the highest detected concentration being 0.29 mg/kg, more than twice the RSL.

67. At the North Playa Lake Outfall, PFOS and PFOA combined were detected above the HA values at both surface water sample sites, with the highest detected combined value being 0.123 µg/L, nearly two times the HA.

68. At Hangar 109, PFOS was detected above the RSL at a maximum concentration of 0.23 mg/kg, nearly twice the RSL.

69. At the Active FTA, PFOS was detected above the RSL at a surface soil location at a concentration of 1.1 mg/kg, more than eight times the RSL, the highest of all soil samples on the base.

70. Two locations, Landfill #4 and Flightline Aircraft Crashes, were presented in the Basewide Groundwater Sampling. PFOS was detected basewide above the HA at five sample sites with a maximum detected concentration of 24 µg/L, 342 times the HA. PFOA was detected above the HA at four sample sites with a maximum detected concentration of 3.1 µg/L, forty-four times the HA. PFOS and PFOA combined exceeded the HA at six sample sites with the maximum concentration of 26.2 µg/L, 374 times the HA.

71. Notably, because these compounds are persistent and bioaccumulative, any detectable amount that can be ingested, regardless of whether or not it exceeds the HA or RSLs, will add to the lifetime concentration of PFAS in any given individual.

72. NMED learned in late 2018 that following a preliminary assessment in 2015 and a scoping visit in in 2016, the Air Force collected samples at four of its public supply wells in 2016, at fourteen potential PFAS release sites in 2017, and at off-base private water supply wells in 2018. The Air Force test results documented high concentrations of PFAS compounds in both on- and off-base groundwater. Sampling has detected PFAS in some off-base wells, which provide drinking water and livestock and irrigation water to local dairies, including the Highland Dairy, half of a mile south and slightly east of Cannon. Air Force sampling showed a maximum of 539 ppt for PFOA in the Highland Dairy well (7.7 times the EPA HA), and Highland Dairy's own

sampling showed 2,920 PFOA (nearly 42 times the HA), with a total PFOS/PFOA of 14,320 ppt in an irrigation well (more than 204 times the HA).

73. The Air Force itself has determined that the "presence [of PFOS and PFOA at Cannon] in drinking water at levels above the EPA [HAs] poses an imminent and substantial danger to public health or welfare," and notified NMED of this determination via letter on January 10, 2019.

74. On September 26, 2018 NMED sent a letter confirming that a teleconference with the Air Force on August 13, 2018, in which the State noted that the detection of PFAS compounds in groundwater exceeding the HA counted as "a notifiable discharge even if the specific date, sources and volumes of the discharge are not yet known." The Air Force provided a formal notice of the discharge event to NMED on August 14, 2018.

75. NMED advised that the Cannon SI Report that was submitted August 27, 2018 would count as an Interim Corrective Action report subject to several conditions as well as additional corrective actions.

76. The Air Force responded to NMED's September 26 letter on October 26, 2018, and declined to make the revisions requested by NMED.

Holloman Air Force Base

77. Holloman is located in Otero County near the city of Alamogordo. The base covers approximately 59,800 acres and hosts a population of roughly 21,000.

78. Alamogordo, New Mexico is a city with a population of approximately 31,000 people who rely partially upon groundwater in the Tularosa Basin for potable water.

79. Holloman, formerly known as Alamogordo Army Air Field, was initiated as a wartime temporary facility in 1942. In March 1947, after a brief inactivation at the end of World

War II, the installation was transferred to the Air Material Command with the mission of providing facilities and testing of pilotless aircraft, guided missiles, and allied equipment in support of the Air Material Command Research and Development Program. The base was renamed Holloman Air Force Base in 1948.

80. Holloman is currently home of the 49th wing of the Air Combat Command, 96th Test Group, 54th Fighter Group, and the German Air Force Flying Training Center. Operations at Holloman include missile testing, aircraft and pilot training, operational equipment and systems testing, and aircraft maintenance and storage.

81. In 2015, the "*Final Preliminary Assessment Report for Perfluorinated Compounds at Holloman Air Force Base, Alamogordo, New Mexico*" identified thirty-one potential PFAS release areas at Holloman. The Preliminary Assessment was provided to NMED as part of the EPA's Health Advisory proceedings.

82. In November 2018, Defendants released the "*Final Site Inspection of Aqueous Film Forming Foam (AFFF) Release Areas Environmental Programs Worldwide*" for Holloman. ("Holloman SI Report").

83. The Holloman SI Report detailed five AFFF release areas, but did not rule out the possibility that releases had occurred elsewhere at the site:

a. **Former FTA**—Fire training activities were conducted generally at the Former FTA since 1942, although the exact dates of fire training in this area is unknown. Fire training was conducted in two unlined burn pit areas within the Former FTA. The volume of AFFF used during each training exercise is unknown. Fire training activities continued at this location until 1990 when training exercises were moved to the current FTA.

b. **Sewage Lagoon Area Outfall**—Prior to construction of a WWTP in 1996, wastewater from Holloman was discharged directly into the sewage lagoon area that was comprised of seven unlined lagoons. Approximately 1.2 million gallons of domestic and industrial wastewater were discharged into the sewage lagoon daily.

c. **Apache Mesa Golf Course Outfall**—In 2011, the golf course began receiving a portion of the effluent from the WWTP to fill two golf course ponds and irrigate greens. Releases of AFFF from within the industrial shops and Holloman would be routed through the WWTP and eventually lead to the water holding tank at the Apache Mesa Golf Course.

d. **Lake Holloman Outfalls**—Wastewater from Holloman was discharged directly into the sewage lagoon area and eventually to Lake Holloman prior to construction of the WWTP in 1996.

e. **Evaporation Pond No. 2**—The evaporation basin was installed in 1991 and currently collects all discharges containing AFFF, routed through hangar bay floor drains from hangars located in the western ramp area of the West Hangar Group. The Holloman Fire Department uses this basin for monthly AFFF tests and firehose washouts. AFFF is reportedly sprayed from vehicles into the pond until a consistent flow pattern is established.

84. The Former FTA (FT-31), the Sewage Lagoon Area Outfall, the Apache Mesa Golf Course Outfall, the Lake Holloman Outfalls, and Evaporation Pond No. 2 release areas were analyzed for PFAS contamination in the soil, sediment, surface water, and groundwater. PFOS and PFOA concentrations in soil and sediment were compared against the RSL of 0.126 mg/kg. Groundwater concentrations for PFOA and PFOS, or PFOA and PFOS combined were compared against the EPA HA of 70 ppt.

85. Six surface soil samples, including one duplicate, and six subsurface soil samples, including one duplicate, from a total of five locations, were taken and analyzed for PFAS at the Former FTA (FT-31). The soils were analyzed for PFOA and PFOS, with each being detected at each sample site. PFOS was detected above the RSL more than half the time with the highest concentration exceeding the 0.126 mg/kg RSL at 1.13 mg/kg, nearly nine times the limit. At the three groundwater sample sites at FT-31, PFOS, PFOA, and PFOA and PFOS combined were detected well above the EPA HA of 0.07 µg/L, with the highest concentrations being 48.4 µg/L (691 times the HA), 254 µg/L (3,628 times the HA), and 302.4 µg/L (4,314 times the HA), respectively.

86. At the Sewage Lagoon Area Outfall, groundwater results at three locations revealed PFOS, PFOA, and PFOS and PFOA combined all exceeding EPA's HA. The surface water sample also revealed PFOS, PFOA, and combined concentrations exceeding the HA.

87. One groundwater, two sediment, two surface water, and two effluent samples were taken at the Apache Mesa Golf Course Outfall. PFOA and PFOS combined were detected above the HA in the groundwater sample with a maximum concentration of 0.1371 µg/L, nearly twice the HA. PFOS, PFOA, and PFOS and PFOA combined exceeded the HA at both of the surface water sample locations, with the highest concentration of 1.317 µg/L. Likewise, PFOS, PFOA, and the two combined exceeded the HA in both of the effluent samples with the highest concentration of 0.995 µg/L, fourteen times the HA.

88. Sediment and surface water samples were taken at Lake Holloman Outfalls. PFOS was detected in sediment above the RSL at 0.519 mg/kg, four times the RSL. The surface water samples each had concentrations of PFOS, PFOA, and PFOS and PFOA combined that exceed the EPA HA, with the maximum concentration of PFOS and PFOA combined at 3.188 µg/L, forty-five times the HA.

89. Finally, soil and groundwater were analyzed at Evaporation Pond No. 2. PFOS was detected above the RSL at the surface and subsurface intervals for each of the soil samples with a maximum concentration of 5.71 mg/kg, the highest of all soil samples for Holloman and forty-five times the RSL. PFOA was also detected above the RSL at the surface level for each sample. PFOS, PFOA, and PFOS and PFOA combined were detected above the HA in the groundwater sample with a maximum PFOS and PFOA combined concentration of 1066.6 µg/L, more than 15,000 times the HA and the highest of all groundwater samples at the base.

90. Sampling at both Cannon and Holloman is ongoing in an effort to more fully characterize the extent of the groundwater contamination plumes and their migration outside of the site boundaries.

STATUTORY AND REGULATORY BACKGROUND

91. Congress enacted the Resource Conservation and Recovery Act ("RCRA") in 1976 in response to "a rising tide of scrap, discarded, and waste materials" that had become a matter of national concern. 42 U.S.C. § 6901(a)(2), (4) (1984). In enacting RCRA, Congress declared it a national policy "that, where feasible, the generation of hazardous waste is to be reduced or eliminated as expeditiously as possible. Waste that is nevertheless generated should be treated, stored, or disposed of so as to minimize the present and future threat to human health and the environment." 42 U.S.C. § 6902(b).

92. Congress recognized, however, that the "collection of and disposal of solid wastes should continue to be primarily the function of the State, regional, and local agencies. . . ." 42 U.S.C. § 6901(a)(4). Thus, RCRA allows any state to administer and enforce a hazardous waste program subject to authorization from the EPA. 42 U.S.C. § 6926(b).

93. RCRA includes a clear and unambiguous waiver of sovereign immunity:

> Each [federal entity] engaged in [disposal or management of hazardous waste] shall be subject to, and comply with, all Federal, State, interstate, and local requirements, both substantive and procedural (including any requirement for permits or reporting or any provisions for injunctive relief and such sanctions as may be imposed by a court to enforce such relief), respecting control and abatement of solid waste or hazardous waste disposal and management in the same manner, and to the same extent, as any person is subject to such requirements. . . . The United States hereby expressly waives any immunity otherwise applicable to the United States with respect to any such substantive or procedural requirement (including, but not limited to, any injunctive relief, administrative order or civil or administrative penalty or fine . . .).

42 U.S.C. § 6961.

94. EPA authorized New Mexico's state program pursuant to RCRA in 1985, 40 C.F.R. § 272.1601(a), and delegated to New Mexico "primary responsibility for enforcing its hazardous waste management program." 40 C.F.R. § 272.1601(b). New Mexico's HWA and regulations promulgated pursuant to it are incorporated by reference into RCRA. 40 C.F.R. § 272.1601(c)(1).

95. The purpose of New Mexico's HWA is to "ensure the maintenance of the quality of the state's environment; to confer optimum health, safety, comfort and economic and social well-being on its inhabitants; and to protect the proper utilization of its lands." § 74-4-2.

96. Pursuant to the HWA, NMED is authorized to issue permits, § 74-4-4.2(C), and must deny them if an applicant has made a material misrepresentation or has violated any provision of the HWA, among other reasons. § 74-4-4.2(D).

97. NMED may bring suit in the appropriate district court to immediately restrain any person, including any past or present generator, past or present transporter, or past or present owner or operator of a treatment, storage, or disposal facility, who has contributed to or is contributing to the past or current handling, storage, treatment, transportation, or disposal of solid waste or hazardous waste or the condition or maintenance of a storage tank that may present an imminent and substantial endangerment to health or the environment. § 74-4-13.

98. The HWA § 74-4-3(K) defines "hazardous waste" as:

> [A]ny solid waste or combination of solid wastes that because of their quantity, concentration or physical, chemical or infections characteristics may:
>
> (1) cause or significantly contribute to an increase in mortality or an increase in serious irreversible or incapacitating reversible illness; or
>
> (2) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported,

> disposed of or otherwise managed. 'Hazardous waste' does not include any of the following, until the board determines that they are subject to Subtitle C of the federal Resource Conservation and Recovery Act of 1976, as amended, 42 U.S.C. 6901 et seq.: drilling fluids, produced waters and other wastes associated with the exploration, development or production of crude oil or natural gas or geothermal energy; fly ash waste; bottom ash waste; slag waste; flue gas emission control waste generated primarily from the combustion of coal or other fossil fuels; solid waste from the extraction, beneficiation or processing of ores and minerals, including phosphate rock and overburden from the mining of uranium ore; or cement kiln dust waste.

99. New Mexico's Legislature has granted wide latitude to its environmental programs in order to ensure protection of its natural resources. New Mexico's Environmental Protection Regulations and the rulemaking procedures thereunder are to be "liberally construed to carry out their purpose." 20.1.1.108 NMAC.

CAUSE OF ACTION

First Cause of Action:
Violation of the New Mexico Hazardous Waste Act

100. All allegations above are incorporated herein as if specifically set forth at length.

101. Defendants are a "person" under NMSA § 74-4-3(M).

102. PFAS, as described herein, are discarded materials and each is a "solid waste" as defined under the HWA, NMSA § 74-4-3(O), and a "hazardous waste" as defined under NMSA § 74-4-3(K).

103. As a result of the releases of PFAS and other hazardous wastes at Cannon and Holloman as described herein, Defendants have contributed to and will continue to contribute to the past and present handling, storage, treatment, transportation, and/or disposal of solid or hazardous waste which has or may present an imminent and substantial endangerment to health and/or the environment in violation of the HWA, § 74-4-13.

104. Conditions at Cannon and Holloman, as described herein, have presented or may present an imminent and substantial endangerment to health and/or the environment via continued migration of contamination in groundwater and/or drinking water at and around the Bases. In addition to natural resources throughout the environment, members of the public and those living in or visiting surrounding areas are or will be directly exposed to contaminants through all pathways of migration.

105. Although Defendants have acknowledged that the presence of PFOA and PFOS presents an imminent and substantial danger at Cannon, Defendants have declined to take remedial action required under the law.

106. By reason of the foregoing acts and omissions of Defendants, the State is entitled to an order for such relief as may be necessary to remedy the results of Defendants' conduct. Such relief includes but is not limited to injunctive relief compelling Defendants to take all steps necessary to achieve permanent and consistent compliance with the HWA.

PRAYER FOR RELIEF

WHEREFORE, Plaintiff, the State of New Mexico, respectfully requests that the Court enter judgment in its favor and against Defendants by granting relief as follows:

a. An order declaring that Defendants' conduct violated the HWA;

b. Immediate injunctive relief requiring the abatement of ongoing violations of the HWA, abatement of the conditions creating an imminent and substantial endangerment, and to fund any costs associated with each compliance whether incurred by the State or third parties performing abatement;

c. A permanent injunction directing Defendants to take all steps necessary to achieve permanent and consistent compliance with HWA;

d. All available civil penalties under applicable statutes;

e. The payment for past costs incurred by the State and not yet reimbursed by the Defendants in connection with its oversight and efforts to obtain compliance with the HWA in this matter;

f. A declaratory judgment providing the State with a mechanism for reimbursement of future costs incurred by the State in connection with its oversight and efforts to monitor compliance with the HWA in this matter;

g. A judgment awarding the State costs and reasonable attorneys' fees incurred in prosecuting this action, together with prejudgment interest, to the full extent permitted by law; and

h. A judgment awarding the State such other relief as may be necessary, just, or appropriate under the circumstances.

Dated: March 4, 2019

Respectfully submitted:

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