AFFIDAVIT

The State of New Mexico

County of Otero

I, Edna Kay Hinkle (name) of Otero (county), New Mexico (state),

MAKE OATH AND SAY THAT:

See pages 2, 3, and 4,5

STATE OF New Mexico

COUNTY OF Otero

Edna K. Hinkle
(Signature of person making the statement)

SUBSCRIBED TO AND SWORN TO BEFORE ME,

on the 7th day of October, 2020

Signature: Andrea L Carrillo (Seal)
Notary Public

My Commission expires: 01/25/2024

OFFICIAL SEAL
ANDREA L. CARRILLO
NOTARY PUBLIC
STATE OF NEW MEXICO
My Commission Expires:

Richard (Dick) and Genevra Wood Gililland were White Sands Missile Range Ranchers, who were living west of Salinas Peak, twenty seven miles from where the atomic bomb was tested. They had a rainwater cistern that caught the rainwater when it ran off the house, and then the excess rain water ran into a dirt tank. They used out of that dirt tank when the cistern went dry. They used this rainwater for drinking water and to cook with.

The well water across the canyon was too rank to drink. They had no electricity, so that means no pressure pumps or pressure tanks. The well water was pumped out of the ground by the windmill when the wind blew, into an open storage tank. That water sat in the tanks exposed to the radiation.

They had six children: Alice, Sam, Dixie, Lola, Pete, and Jess. Nineteen of Dick and Genevra's immediate family members have been affected by cancer.
Jess and Pete were asleep on the front porch when this bomb went off, and woke them up. They saw the mushroom twenty seven miles away. The government didn't even bother to tell them to get out of the area beforehand. Jess said the government never told them what the mushroom was.
Sam's daughter Cleo had stomach cancer when she was 12.
Sam's daughter-in-law Carol Ann died from colon, liver, and lung cancer.
Alice and her husband Clay Smith had spring water that ran into an open metal tank for their drinking water. Alice had breast cancer when she was in her early 80s, her husband Clay died of colon cancer at the age of 66. Her daughter Lucy died from breast cancer at 42. Her son Richard got prostrate cancer when he was 56 and died from it when he was 73. Her granddaughter Cheryl died from cancer.
Dixie and her husband Roy Tucker had spring water that ran into an open tank for their drinking water. Roy died from pancreatic cancer. Her son-in-law Tony Beanblossom died from colon cancer

when he was 67. Her daughter-in-law Karen Beanblossom Tucker died of breast cancer.
Lola has had skin cancer. Her husband Hansel Tucker beat colon cancer when he was 52. Both of her sons have been fighting prostrate cancer.
Pete had cancer when he died at the age of 79. His wife Wilma was 66 when she died from pancreatic cancer.
Jess had cancer just below his eye. His wife Louise had thyroid cancer at the age of 83. His daughter Edna Kay Hinkle beat breast cancer at 59. She has had twenty one skin cancers and probably hundreds of potential skins cancers cut or burnt off. His daughter Judy beat breast cancer when she was 49.
They all drank out of open tanks, either rainwater or spring water. Open tanks, meaning no tops, no lids on the tanks.

Jess and Louise Gililland, his brother, Pete Gililland, and his wife, Wilma Gililland walked around at the Trinity site after the bomb was detonated. They picked up the melted sand, and took it home, not knowing it was full of radiation. Back in those days they had a fence around the Trinity site, but the gate was open. Their children were clearly affected by it. Wilma was pregnant at the time with Shirley Ann Gililland. Shirley was born without any eyes.

Genevra's brother John Wood lived on the ranch to the south of her. He had a rain water cistern for his drinking water. The closest well was ¼ of a mile from the house. He died of Leukemia. His son Howard and his daughter Bonnie both died of cancer.
Genevra's brother Pete Wood's ranch was to the south of John Wood's ranch. Peter had well water, but it pumped into an over head tank. Pete's son-in-law Harvey Hinkle died from lyposarcoma cancer, his son Eldon Hinkle died from esophageal cancer.
Genevra's sister-in-law Annie Wood, who lived on the ranch to the north of Genevra had a spring that ran into a open rock tank. She

died of esophageal cancer. She was closer to the Trinity site than Dick's ranch.

That makes a total of 25 cancer victims in my family.
My oldest daughter, Jackie Freeman says it's not a matter of if you get cancer; it's a matter of when in our family.
Alice Smith's daughter Viola told her Dr. She hadn't been born yet when the bomb went off, so she doesn't have to worry about cancer. He told her the radiation altered our DNA so we are more susceptible to cancer.

Thank you very much for your time and help!
Edna Kay Gililland Hinkle
I live in Tularosa, New Mexico,
But my grandparent's ranch was 27 miles from Trinity Site when the atomic bomb went off.

This is a picture of the water storage tanks. One rock tank and one metal tank. The wind mill is no longer there. This is South East of Trinity Site.

Consent form for New Mexico Downwinders

I consent to sharing my story with the Tularosa Basin Downwinders Consortium, with my full understanding and permission for them to use my story and identity in their advocacy efforts, which may include (but are not limited to) research, news stories, articles, etc.

Print Name Edna K. HinKle

Sign Name Edna K. HinKle

Date 10-7-2020

Genoveva Peralta Purcella
8016 Constitution Road
Las Cruces, NM 88007

September 7, 2016

On July 16, 1945 my sisters Elena (Helen), Adelaida (Addie), and Natividad (Tive) came home to the family ranch located 5 miles west of Capitan and one mile north of US 380. After graduating from Capitan High School, they re-located to Alburquerque (as it was spelled then) to go to college and work. That July day, they were helping their mother (who was one month pregnant with me; I was born on March 13, 1946) in the ranch house, when they heard a loud explosion that shook the house, and broke windows. They huddled in fear in a corner with our mother Francesquita (Frances), unaware of what was happening. Mother thought the world was ending!

Dad (Demecio) was outside in the corral tending to the cows. When the explosion happened the sky turned dark and the ground shook! After the initial shock, he immediately ran inside to see if everyone was safe. He entered the house, dusting himself off as walked inside. He was covered in a white powder from the explosion. He found that his family was safe, but very frightened. He walked outside to check on his cows and all of his red cows were covered in a white powder, as was the entire ground! The white "snow" was everywhere. It entered every crevice of the entire landscape. It entered every crevice of my family's home and future.

My father Demecio, suffered with cancer for three years. He had skin cancer and his skin was literally cracking open. He had cancer in his eyes and his stomach. He developed Hodgkin's disease now called Hodgkin's Lymphoma (a cancer of the lymphatic system), and he was in and out of the hospital in Albuquerque. My father passed away due to complications of Hodgkin's Lymphoma on April 18, 1962. By this time, I was a young teenage sophomore in high school. The death and suffering my father endured was devastating for me. He was my idol.

Of my ten siblings raised on the ranch (some of them born on the ranch), seven of them have endured the disease of cancer and four of my siblings have been lost to various types of cancer. My sister Adelaida Peralta (only 33 years of age), endured cancer then died on January 28, 1958 of complications due to metastasized cancer. She left behind her two young children to be raised by my mother, Francesquita Silva Peralta. My mother was not without her own cancer diagnosis.

I am currently the only surviving family member of my nuclear family and I have also had my war with cancer. Due to advances in modern medicine, I am hoping every day for a cure! Many of my family members, including my sons and their families still live on this land. I pray that my daughter, two sons and their children, can live cancer-free lives.

One by one as the years have passed, I have been witness to all my adult siblings and some of their children being diagnosed with one form of cancer or another. Those who have succumbed to the disease left behind families and their own struggles with cancer legacies.

In honor of my immediate family, I will list each member who has been afflicted with and/or lost to various cancers.

- Adelaida Peralta Martinez, my sister, passed away in 1958. She was 33 years of age. The death was a direct result of cancer.
- Demecio Peralta, my father, passed away in 1962. He was 43 years of age. He had Hodgkin's Lymphoma. The death was a direct result of cancer.
- Dorotea Peralta Chavez, my sister, passed away in 2004. She was 69 years of age. The death was a direct result of cancer.
- Juan Peralta, my brother, passed away in 2004. He was 75 years of age. The death was a direct result of cancer.
- Mike Peralta, my brother, passed away in 2001. He was 58 years of age. The death was a direct result of cancer.
    - Francesquita Silva Peralta, my mother, was 63 years of age when she was diagnosed with cancer. She was cancer-free after treatment and passed away at age 92.
    - Natividad Peralta Heberling, my oldest sister, was diagnosed with more than one form cancer in 1999 at age 79. She was cancer-free after treatment and passed away at age 93.
    - Elena Peralta Quintana, my sister, was diagnosed with cancer in 1972 at age 50 and again in 1980 age 58. She was cancer-free after treatment and passed away at age 92.
    - I, Genoveva Peralta Purcella, am the sole surviving member of my nuclear family. At the age of 30, as the mother of three young children, I was diagnosed with breast cancer. I have been cancer-free for over 40 years!

I feel the same way that I assume everyone who was exposed to the fallout from the Trinity site nuclear bomb testing feels, which is that the United States government and the U.S. military did us an injustice! If we had been made aware in advance of the Trinity site nuclear bomb testing, and had been educated on any repercussions related to the fallout and the radiation exposure, my family would likely have been spared the undue suffering and loss that resulted from this government testing. We wouldn't have eaten the meat of the cows; we wouldn't have ingested the water from our wells. We had a large garden on which we subsisted, and we ate all of those vegetables that were exposed to radiation! My dad's favorite horse died shortly after my dad died. The horse's fur changed color, grew long and he lost so much weight that he simply disintegrated. It is disheartening and despicable, that my family and their surrounding neighbors were not located, and told via letter, radio, or any form of notice, that we should vacate the area or stay indoors, or seek shelter underground. Anything would have been better than nothing we received.

As executor of the estate of my family ranch in which my two sons and their families currently reside, I am submitting these testimonials for both my father Demecio Peralta, and my mother, Francesquita Silva Peralta, and myself, Genoveva Peralta Purcella.

Sincerely,

GP Purcella

Genoveva Peralta Purcella
(575) 640-0246

Bulletin of the Atomic Scientists

Trinity: "The most significant hazard of the entire Manhattan Project"

By Kathleen M. Tucker, Robert Alvarez, July 15, 2019

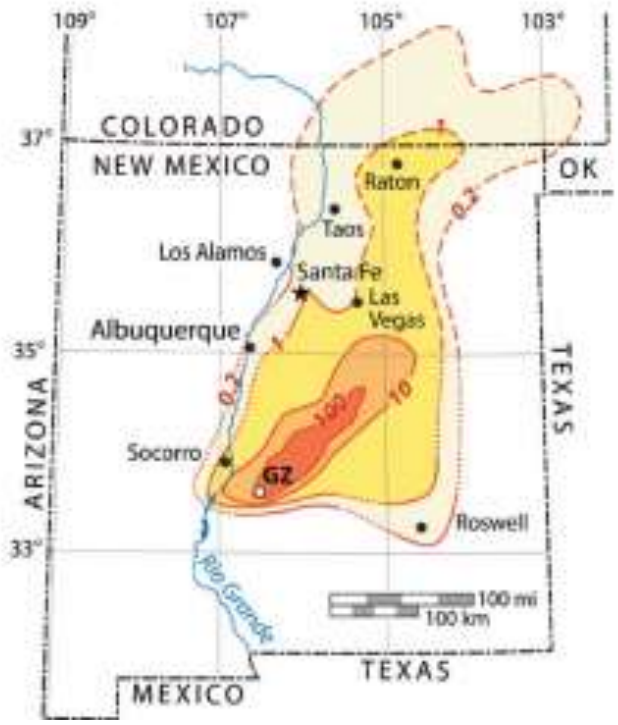
For the past several years, the controversy over radioactive fallout from the world's first atomic bomb explosion in Alamogordo, New Mexico on July 16, 1945—code-named Trinity—has intensified. Evidence collected by the New Mexico health department but ignored for some 70 years shows an unusually high rate of infant mortality in New Mexico counties downwind from the explosion and raises a serious question whether or not the first victims of the first atomic explosion might have been American children. Even though the first scientifically credible warnings about the hazards of radioactive fallout from a nuclear explosion had been made by 1940, historical records indicate a fallout team was not established until less than a month before the Trinity test, a hasty effort motivated primarily by concern over legal liability.

In October 1947, a local health care provider raised an alarm about infant deaths downwind of the Trinity test, bringing it to the attention of radiation safety experts working for the US nuclear weapons program. Their response misrepresented New Mexico's then-unpublished data on health effects. Federal and New Mexico data indicate that between 1940 and 1960, infant death rates in the area downwind of the test site steadily declined—except for 1945, when the rate sharply increased, especially in the three months following the Trinity blast. The 21 kiloton explosion occurred on a tower 100 feet from the ground and has been likened to a "dirty bomb" that cast large amounts of heavily contaminated soil and debris—containing 80 percent of the bomb's plutonium—over thousands of square-miles. (See Figure 1.)

After a nearly half a century of denial, the US Department of Energy concluded in 2006, "the Trinity test also posed the most significant hazard of the entire Manhattan Project."[1] Four years later the US Centers for Disease Control gave weight to this assessment by concluding:

"New Mexico residents were neither warned before the 1945 Trinity blast, informed of health hazards afterward, nor evacuated before, during, or after the test. Exposure rates in public areas from the world's first nuclear explosion were measured at levels 10,000-times higher than currently allowed."[2]

Figure 1.



Estimated exposure rate in milliroentgens per hour (mR h^{-1}) 12 hours after detonation; GZ = ground zero of Trinity. Source: Centers for Disease Control (2010).

Meanwhile the National Cancer Institute is conducting a study to model the dispersion and dose reconstruction for people who may have been exposed to fallout from the Trinity explosion. Regardless of the outcome of this study, it is clear the public was put in harm's way because of US government negligence in conducting and its participation in a coverup of the results of an exceedingly dangerous experiment.

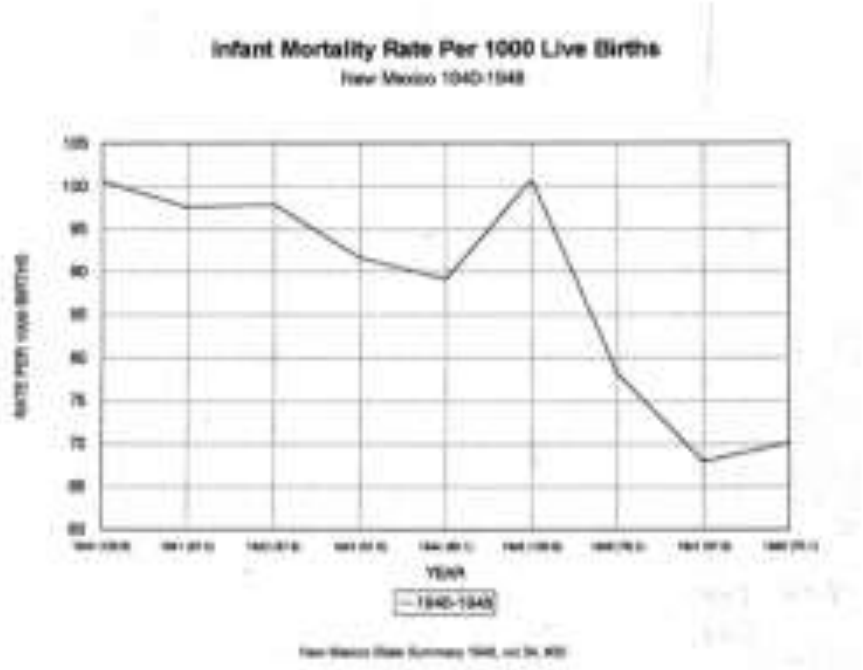
Infant mortality concerns raised about Trinity. In October 1947, the first concerns over a rise in infant mortality along the fallout path of the Trinity explosion were raised in a letter to Stafford Warren, a medical radiologist and radiation safety chief of the Manhattan Project and the Trinity test in particular. "As I recall, in August 1945, the month after the first bomb was tested in New Mexico, there were about 35 infant deaths here…" Kathryn S. Behnke, a health care provider from Roswell, New Mexico, wrote. "I understand the rate at Alamogordo, nearer the site of the test, was even higher than Roswell."[3]

On December 4, 1947, Warren's medical assistant, Fred A. Bryan, replied to Ms. Behnke, writing that "we can find no pertinent data concerning infant deaths; in fact there is no report as to the number of or specific cause or dates and, as far as Alamogordo is concerned."[4] Bryan also wrote that he "wanted to assure you that the safety and health of the people at large is not in any way endangered."[5]

Bryan failed to mention that he did not bother to examine New Mexico's vital statistics. About a month after Bryan's reassured Behnke of no evidence of harm, a state health official sent the actual unpublished data on infant deaths collected by the state to Los Alamos. [6] Soon thereafter, in a letter dated, January 22, 1948 to Bryan, Wright Langham, biomedical group leader at the Los Alamos National Laboratory (LANL), forwarded hand-written sheets from the state of "the records of infant births and deaths during 1945-1947." Langham added: "I am sure what I am sending you will not be of much help." The New Mexico Health Department data indicated that the infant death rate increased by 38 percent in 1945 compared to 1946 and was 57 percent higher than in 1947.[7]

Finding the facts. More than 70 years later, we examined the vital statistics collected by the US government and the state of New Mexico in the 1940s to determine if area health patterns changed after the first atomic explosion. The data eventually provided to Los Alamos and Bryan in January 1948 indicated a sharp rise in infant deaths following the Trinity explosion. Later, between 1940 and 1960, infant mortality in New Mexico showed steady and deep annual declines—except for 1945, when it shot up.[8] The infant mortality rate in New Mexico in 1945 was 100.8 per 1,000 live births; the rate for 1944 was 89.1, and for 1946 it was 78.2.[9] (See Figure 2.) The unpublished data sent to Los Alamos indicated an infant death rate nearly 34 percent higher in 1945 than subsequently made public.

Figure 2



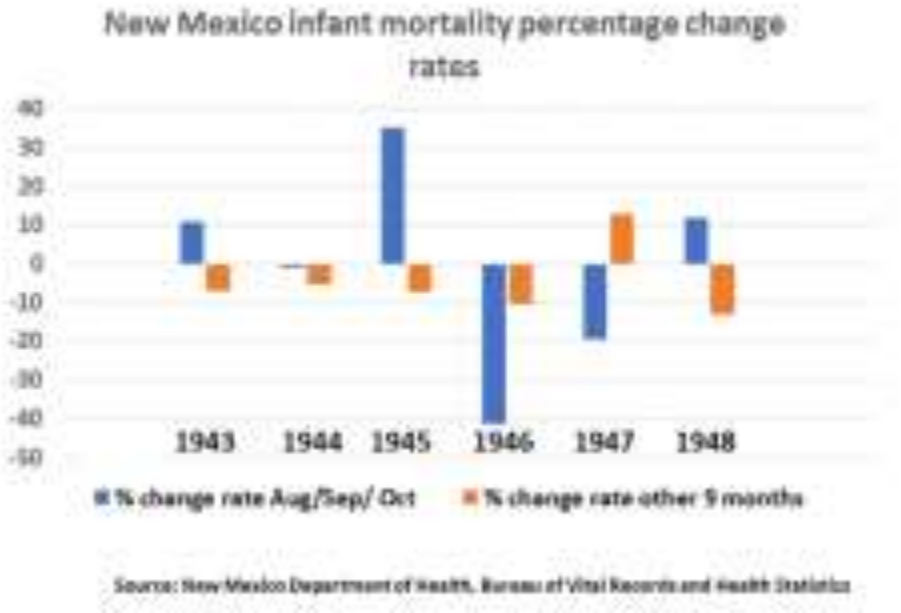
Month-by-month data for the years 1943 to 1948 revealed the highest infant mortality rates in late summer, following the Trinity blast, with a significant peak in September 1945. Infant mortality for the months August, September, and October after the explosion indicated that New Mexican infants had a 56 percent increased risk of dying, with less than a 0.0001 percent chance that this was due to natural fluctuation.[10]

In 1945, infant death rates increased on average by 21 percent (with a statistical error range of plus or minus six percent that applies to all the rates listed in this paragraph) in counties where fallout was measured by Manhattan Project personnel. Rates in these counties dropped by an average of 31 percent in 1946. The infant death rate in Roswell, where Ms. Behnke first alerted Warren of the problem, climbed by 52 percent in 1945, after falling by 27 percent between 1943 and 1944. The rate then dropped in Roswell by 56 percent in 1946. Rates in the downwind counties where fallout was measured dropped by an average of 31 percent (plus or minus eight percent) percent in 1946

We found no extraordinary metrological conditions, such as heat or heavy rains and floods, that may have competed with radioactive fallout as a factor in the increase in newborn deaths after Trinity. According to the CDC in 2010, risks to newborns were especially heightened as “residents reported that fallout ‘snowed down’ for days after the blast, most had dairy cows and most collected rain water off their roofs for drinking.”[11]

The Trinity Test was conducted on July 16, 1945. The rate of infant mortality began rising in July. The month of August showed an infant mortality rate of 152.3 per 1,000 live births. In September, the rate was 187.8, and in October 123.1. Infant mortality change rates for August, September, and October show a dramatic increase in 1945 when compared to the same three months for the years 1943, 1944, 1946, 1947 and 1948 (see figure 3)

Figure 3



Ionizing radiation is especially damaging to dividing cells, so the developing infant, both before and after birth, is susceptible to radiation damage, as Alice Stewart, an epidemiologist who first demonstrated the link between X-rays of pregnant women and disease in their children,[12] first warned in 1956.[13]This damage may be seen years later with the development of leukemia and other cancers in children exposed in utero to ionizing radiation, as Stewart and others confirmed in subsequent studies.[14] By 1958, the United Nations Scientific Committee on the Effects of Atomic Radiation recognized that, in the short term, radiation damage can be reflected in fetal and infant deaths.[15]

Fallout protection was not a priority for the Trinity explosion. The Trinity test was top secret to all but a few scientists and military officials. No warnings were issued to citizens about off- site fallout dangers, although off-site measurements done with a paucity of instruments and people indicated that radiation spread well beyond the test site boundaries. [16]

The Trinity bomb was detonated atop a 100-foot steel tower. With an estimated explosive yield of 21,000 tons of TNT, the fireball vaporized the tower and shot hundreds of tons of irradiated soil to a height of 50,000 to 70,000 feet, spreading radioactive fallout over a very large area. Fallout measurements taken shortly after the explosion were very limited and primitive instruments were used; the data suggest no measurements regarding inhalation or ingestion of radionuclides were taken.

Joseph Shonka, a principal researcher for the study of the Trinity shot for the Centers for Disease Control, recently concluded that the Trinity fallout “was similar to what might occur with a dirty bomb. A fraction of the plutonium [~20%] was used in the explosion [and] … the fireball contacted the soil. Because of the low altitude, fallout exhibited a ‘skip distance’ with little fallout near the test site. Although there were plans for evacuation, radio communication was lost as the survey teams traveled out to follow the overhead plume. Thus, the command center was unsure of whether that the criteria had been met … and failed to order the evacuation.”[17]

Scientists had stressed the importance of protection from radioactive fallout following a nuclear weapon explosion, five years before the Trinity test. “Owing to the spread of radioactive substances with the wind, the bomb could probably not be used without killing large numbers of civilians, and this may make it unsuitable as a weapon for use by this country,” warned Manhattan Project physicists Otto Frisch and Rudolf Peierls in their important memorandum of March 1940, which accelerated production of the first atomic weapons. “[I]t would be very important to have an organization which determines the exact extent of the danger area, by means of ionization measurements, so that people can be warned from entering it.”[18]

As preparations were being made to test the first nuclear weapon, warnings by Frisch and Peierls about fallout hazards were lost on the leadership of the Manhattan Project. Were it not for two physicists at Los Alamos who warned in a June 1945 memorandum that “radiation effects might cause considerable damage in addition to the blast damage ordinarily considered,”[19] little would have been done. Later Joseph O. Hirschfelder, one

of the concerned scientists, recalled that “very few people believed us when we predicted radioactive fallout from the atom bomb. On the other hand, they did not ignore this possibility.”[20]

On first being warned by Los Alamos scientists, Gen. Leslie Groves, the Manhattan Project director, dismissed concerns about fallout as being alarmist. But Warren convinced Groves of the potential risk of legal liabilities, and Groves grudgingly agreed to assemble a team at the last minute to track fallout from the test.[21]

A lot was at stake. First, there was the enormous expense involved; the Trinity device cost approximately 15 percent of what the United States spent on all conventional bombs and other explosives during World War II.[22] Then again, there was great pressure to test the Trinity device before July 17, 1945, when the three heads of government of the United States, the Soviet Union and Great Britain were to meet in Potsdam, a German suburb of Berlin, to address the end-stage of World War II and post-war policies. Compared to the political imperative of Potsdam, the hazards of radioactive fallout took a back seat.

But five days after the explosion, Warren reported to Groves that “a very serious hazard” existed over a 2,700 square mile area downwind from the test that had received high radiation doses.[23] Tissue-destructive effects from fallout were observed in livestock in areas that were incorrectly assumed to be uninhabited by people.[24] After realizing the magnitude of the problem, Warren advised Groves that the fallout danger zone, originally set at a 15-mile radius, was too small by at least an order of magnitude and that “there is still a tremendous quantity of radioactive dust floating in the air.”[25]

After more than 70 years, radiation exposures from inhalation and ingestion of water and food contaminated by Trinity test fallout were never assessed,[26]and it may prove to be difficult, if not impossible, to reconstruct doses from internal exposures, given the deaths of residents living in the vicinities from the passage of time and the major changes in lifestyles and dietary habits that have occurred since 1945. Fallout maps of the Trinity test have been made, but they contain strong elements of speculation because of the paucity of radiological monitoring at the time.

The National Cancer Institute is near completion of a fallout dispersion study of the Trinity explosion. Regardless of the outcome of this study, it is clear the public was endangered because of US government negligence in conducting a highly dangerous experiment, as was the case for the downwinders living near the Nevada Test Site, where above-ground nuclear tests were conducted. Because of passage of the Radiation Exposure Compensation Act in 1990, 22,220 “downwinders” exposed to fallout from open air nuclear weapons tests near the Nevada Test Site received an official apology from the US Government for sending them in harm’s way through deception. Through 2015, they had also received nearly $2 billion in financial compensation.[27]

But the people downwind of the 1945 explosion in New Mexico have been denied official recognition, even though the Trinity shot was considered one of the dirtiest of American nuclear tests, with a significant absence of safeguards to protect people from dense

radioactive fallout. Safety took a back seat to making sure the first atomic bombs would meet their enormously destructive potential. Alvin Weinberg, director of Oak Ridge National Laboratory during and after the Manhattan Project captured the prevalent mindset in his memoir by saying that “all else, including safety, was secondary.”[28]

Several years ago, residents of central and southern New Mexico organized to fight for compensation. Known as the Tularosa Basin Downwinders, they have made a compelling case that cancers and other diseases are due to the Trinity blast and subsequent radioactive fallout from open air atomic bomb tests in Nevada.

Indeed, coming to terms with the legacy of the Trinity explosion through radiation dose reconstruction is further complicated by the fallout that drifted from the Nevada tests into New Mexico. As indicated by the Centers for Disease Control in 2005, northern and central New Mexico were among the areas where significant amounts of fallout were deposited from the Nevada open air atomic tests.[29] Even so, the strong correlation of increased infant deaths in the months following the Trinity explosion cannot be ignored.

We should remember that compensation for people near the Nevada test site was not exclusively based on abstract modeling of radiation doses. Rather, downwinders were also compensated because the burden of proof fell unfairly on them. They were victims not just of willful negligence, but also the government’s purposeful deception and suppression of evidence about the high-hazard activity that the US nuclear weapons program constituted. The current body of historical evidence of harm, negligence, and deception—especially the evidence of increased infant death following the first nuclear explosion—should be more than enough for long overdue justice for the people in New Mexico who were downwind of Trinity.

Endnotes

[1]Terrence R. Fehner & F. G. Gosling U.S. Department of Energy, Office of History, Battlefield of the Cold War, Atmospheric Nuclear Weapons Testing 1951-1963, DOE/MA-0003,p 25

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[3] Kathhryn S. Behnke, Chiropractor, Letter to: Dr. Stafford L. Warren, University of California, Los Angeles, CA, October 20, 1947.

[4] Fred A. Bryan, Letter to Katheryn S. Behnke, December 4, 1947.

[5] Ibid.

[6] Letter from Marion Hotopp, M. D., Dept. of Public Health, dated Dec. 19, 1947.

[7] Letter from Wright H. Langham,

[8] New Mexico Summary of Vital Statistics, 1945 vol. 26, #31, July 16, 1947 & Vital Statistics-Special Reports, Federal Security Agency

[9] Ibid

[10]Communication with David Richard, Professor and radiation epidemiologist at the University of North Carolina School of Public Health, November 27, 2017.

[11] op cit ref 3.

[12] See https://www.nytimes.com/2002/07/04/world/alice-stewart-95-linked-x-rays-to-diseases.html

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[16] Op Cit ref 3.

[17] Personal communication with Joseph Shomka June 2019.

[18] Otto Frisch and Rudolf Peierls, Memorandum on the Properties of a Radioactive “Super-bomb,” March,1940.

[19] Hirschfelder and J. Magee to K. Bainbridge, “Danger from Active Material Falling from Cloud Desirability of Bonding Soil Near Zero with Concrete and Oil,” June 16, 1945, NTA.

[20] Joseph O. Hirschfelder, The Scientific and Technological Miracle at Los Alamos, Reminiscences of Los Alamos, 1943-1945, Boston: D. Reidel. Publishing Company, 1980, p.67.

[21] Ferenc Morton Szasz, The Day the Sun Rose Twice, University of New Mexico Press, (1984), pp-71-72

[22] Atomic Audit: The Costs and Consequences of Nuclear Weapons since 1940, Steven I. Schwartz Ed., The costs of the Manhattan Project, Brookings Institution Press, 1998. https://www.brookings.edu/the-costs-of-the-manhattan-project/

[23] Memorandum, To: Major Gen. Groves From: Colonel Stafford L. Warren, Chief of Medical Section
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[25] Memorandum, To: Major Gen. Groves From: Colonel Stafford L. Warren, Chief of Medical Section
Manhattan District, Subject: Report on Test II at Trinity, 16 July 1945, U.S. National Archives, Record Group 77, Records of the Office of the Chief of Engineers, Manhattan Engineer District, TS Manhattan Project Files, folder 4, “Trinity Test.”

[26] Op Cit ref 3, p.22-3. https://nnsa.energy.gov/sites/default/files/nnsa/multiplefiles2/ChemRisk%20et%20al%202010%20Final%20LAHDRA%20Report.pdf

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Keywords: Trinity test
Topics: Analysis, Nuclear Risk, Nuclear Weapons

March 21, 2021
The Honorable Jerrold Nadler
Chairman
House Committee on the Judiciary
Washington, DC 20515

Dear Mr. Chairman Nadler:

I am writing to request that your committee consider the issue of the radiation exposure of residents of New Mexico from activities of the Manhattan Engineering District (MED) and the Atomic Energy Commission (AEC) dating back more than three quarters of a century.

On Oct. 15, 1990, Congress passed the Radiation Exposure Compensation Act (RECA). RECA is scheduled to sunset in 2022. In order to properly address the radiation exposure of New Mexico residents from all exposures from the MED and AEC activities, and to consider adding residents of New Mexico to RECA, your committee should consider amending RECA to extend the sunset provision. The justification for this urgently needed action is based on consideration of the incomplete and faulty studies that have been performed to date which are described below.

RECA did not include New Mexico in the "downwinders" category based on studies by the National Cancer Institute on fallout (NCI, 1997). That report did not consider the Trinity Test nor any other MED and AEC releases of radioactive material in New Mexico. In 2005, at the request of Congress, the National Academies reported on whether additional claimants should be added to RECA (NAP, 2005). In that report to Congress, nearly 50 prominent scientists, including National Research Council (NRC) committee members, NRC staff and reviewers were involved with the three year long development of that report. They asserted that no additional claimants should be considered for addition to RECA based on that NCI report of 1997, noting on page 124 that the highest exposed individual received 210 milligray (mGy) to their thyroid organ throughout the entire atmospheric testing era. That thyroid dose is equivalent to a whole body dose of 8.4 millisieverts (mSv). An exposure that low to the highest exposed individual would result in few excess cancers to the entire population. When Congress has periodically asked the Congressional Research Service if other categories of claimants should be added to RECA, their report (e.g. CRS, 2019) references the NAP study to advise that no added categories are needed. That information, relying on the 1997 NCI report, is incorrect.

The Los Alamos Document Retrieval and Assessment Project by CDC, published in 2010, summarized all available information dealing with offsite impacts of the Los Alamos National Laboratory. Chapter 10 deals with Trinity, and reports that releases from Trinity alone were estimated by MED scientific staff to have caused exposures that exceeded 1,000 mSv from external radiation alone, more than 100 times larger than the assumed exposures that Congress has been provided by advisory groups. That exposure along with internal dose from fallout approaches the highest exposure asserted for survivors of the bombings of Hiroshima and Nagasaki.

The following table compares the partial external dose alone from short lived radioactivity to Trinity downwinders with the complete internal and external dose received over 30 years by offsite civilian populations from other noteworthy events. The data from Hiroshima and Nagasaki is taken from the Japanese Radiation Effects Research Foundation (RERF). The Trinity data is taken from a report in 2008 by NCI provided to Senator Bingaman. The World Health Organization (WHO) data is summarized for Chernobyl and Fukushima. Thousands of downwinders from Trinity received as much dose from fallout as survivors in Japan did from the nuclear weapons. Unlike data for all other categories listed, this table does not include internal dose from Trinity or any other MED releases and, as such, is not a complete assessment of the numbers of New Mexicans

that were impacted by MED and AEC releases nor their exposures to those releases. The lowest dose range (0 to 50 mSv) has many individuals whose partial exposure exceeded the maximum exposure to residents of Utah.

		Dose (mSv)						
Subjects	**Total**	**0-50**	**50-100**	**100-200**	**200-500**	**500-1,000**	**1,000-2,000**	**>2,000**
# of Japanese	86,572	37,458	31,650	5,732	6,332	3,299	1,613	488
# of Trinity	376,958	372,024	1,070	2,856	789		200	19
Trinity workers	700	most	few					
Chernobyl Evacuees	116,000	most	few					
Fukushima	81,000	81,000						

The table above only includes individuals to short-lived fallout alone, and does not include other downwinders and their exposures in New Mexico due to releases from:

1. the 100 Ton Test at the Trinity site
2. Radioactive Lanthanum (RaLa) releases from operations at the Los Alamos site
3. Plutonium releases from Los Alamos
4. exposures from weapons tests at the Nevada Test Site (NTS)
5. exposures to New Mexico residents who worked in uranium mines until 1971 (previously included as a category in RECA)
6. releases over the years from other accidents and operations at the Los Alamos site.

The 2020 NCI report of last fall incorrectly asserts that the Trinity nuclear test of 1945 resulted in a much lower dose from fallout to the surrounding population than experienced by the Japanese survivors who were exposed to the weapons in Japan. (NCI, 2020) There are many issues with that 2020 report that resulted in that erroneous conclusion.

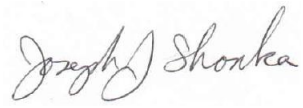
Following the Trinity Nuclear Test, Oppenheimer and Groves asserted that conditions for the test should never be repeated, and that a test site at least ten times farther from civilian populations was needed, along with a much taller (300 feet versus 100 feet) tower to limit fallout exposure to civilians. These criteria were used at the Nevada Test Site, the primary source of exposure to Utah. The MED had two primary concerns in the days following Trinity, secrecy and liability. The need for secrecy was primarily to avoid alerting Japan about the new weapon to ensure the maximum impact to hasten the end of the war. The overwhelming need to keep the atom bomb secret from Japan evaporated 16 days later with the bombing of Hiroshima. This left as their only primary concern to avoid incurring liability.

In order to avoid liability, a false narrative was created that Trinity was a test conducted on unoccupied government land. This frequently repeated statement, ignores the impact to uninvolved civilians an hour after the test who were on land not controlled by the US. If one made the same statement about Chernobyl, it would be correct but laughable. Trinity was a successful test, but was also the first and worst nuclear accident in history. Scientists were unprepared for the scale and extent of the offsite releases. As reported in Barton Hacker's book "The Dragons Tail", (a history written with support of DOE), the overwhelming concerns for avoiding liability resulted in all radiation release data from Trinity, including the logbooks from radiation protection personnel, were retained in Oppenheimer's office and classified to prevent their inadvertent release. With few exceptions, those documents, logbooks, reports and analyses have never been released by DOE. However, in December, 2020, after release of the 2020 NCI study, LANL discovered a small collection (~1 box) of documents dealing with Trinity releases that apparently were used by Hacker in writing his book. I was told that LANL is working to release that limited information.

Downwind residents in New Mexico have not been provided an accurate accounting for their exposures from MED and AEC operations, and have not been well served by science. The false narrative created by the MED and maintained by the AEC was so successful that no residents of New Mexico were aware of their exposures and none elected to participate in the class action lawsuit that resulted in the creation of the RECA itself.

To be fair law, stakeholders and Congress should have access to all information, and both should have access to impartial experts. RECA should be amended to include all impacted individuals from New Mexico who have been denied information about their exposures and denied equal treatment as provided to residents of Utah.

Sincerely,



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Santa Fe Portrait; A Longtime Pillar of the Government Now Aids Those Hurt by Its BombsSanta Fe Portrait; A Longtime Pillar of the Government Now Aids Those Hurt by Its Bombs

By Keith Schneider

- June 9, 1993

Santa Fe Portrait

A Longtime Pillar of the Government Now Aids Those Hurt by Its Bombs

Stewart Udall won recognition for the victims of atomic tests.

People were 'fed a steady diet of lies by the Government.'

Costly Relic, Unit Waits, Ready for Nuclear Tests

CLINTON SCOLDED ON BUSH RECORDS

Image Credit The New York Times Archives

East of the Nevada Test Site, where the Government conducted atmospheric tests of atomic bombs, the town of Alamo, Nev., rises in the desert. In August 1978, at the urging of a cousin, Stewart L. Udall went to Alamo and listened to mothers tell of the dust and radiation from the blasts that settled over the town in the 1950's and of the children they had lost to leukemia.

"Until then, there were a lot of people in that country who suspected a link, but they kept it to themselves," said Mr. Udall, who once was Secretary of the Interior for Presidents John F. Kennedy and Lyndon B. Johnson. "They had been fed a steady diet of lies by the Government that there was no danger. That was my first trip to investigate, and I felt there was more to it, that it would be difficult and that we would be breaking new ground."

It also nearly broke the spirit of an elder statesman of the Southwest and the Democratic Party, a man who wears his hair in unruly silvery waves these days and is almost never seen in anything other than cotton work pants and white sneakers. On a bright spring afternoon in his new adobe home overlooking Santa Fe and the Jemez mountains, Mr. Udall says he is happier than he has been in years as he finishes what may be his greatest work of a life full of achievements. Apology and a Promise

Almost three years ago, the Government passed the Radiation Exposure Compensation Act, a law that was a both a formal apology and a promise to compensate thousands of Americans who were injured or killed by the development and testing of atomic bombs. Hundreds of those people turned to Mr. Udall for help in the late 1970's, and he agreed to represent them as a public interest lawyer. They are finally receiving recognition for their suffering from the Government, though at a pace he calls unnecessarily slow and cumbersome.

From a study decorated with the pictures of the Kennedy brothers, Robert Frost, William O. Douglas and other men of history who were his close friends, Mr. Udall is using his considerable stature and influence to change the system. He has appealed to the Clinton Administration to make the law as compassionate as it was intended to be. And he is beginning to get help from Congress.

In early May, Representative George Miller, a Democrat of California and chairman of the House Natural Resources Committee, asked Attorney General Janet Reno for an

accounting of the compensation program and ways it could be improved. Recently, two Democratic lawmakers from New Mexico, Senator Jeff Bingaman and Representative Bill Richardson, began looking into problems in the program at the Navajo reservation in Shiprock.

The compensation law, which Mr. Udall helped to write and push through Congress, came 12 years after he began to uncover and prove one of the terrible secrets of American democracy: in the name of safeguarding the nation from the Soviets, the United States had knowingly exposed millions of its own citizens to harmful levels of atomic radiation. Signs of Fatigue

The hours of research and the miles of travel are beginning to show in a walk that is stiffening, fatigue that creeps up on him at odd times of the day, and the anger that flares in his eyes when he describes the Government's behavior.

"There is nothing comparable in our history to the deceit and the lying that took place as a matter of official Government policy in order to protect this industry," said Mr. Udall. "Nothing was going to stop them and they were willing to kill our own people."

Mr. Udall developed the evidence for such statements in pursuing three lawsuits he filed filed against the Government. The suits began to undermine the prevailing view that the American nuclear arms industry was safe. The point was made even stronger after Congressional investigations by Senator John Glenn, Representative Mike Synar, and other lawmakers in the 1980's. In 1988 nuclear weapons plants in six states, the heart of the industry, were shut amid protests by citizens and questions about the industry's safety and management that were raised by the Government's own nuclear engineers.

It will be left to historians to decide whether the collapse of the nuclear weapons industry played a role in ending the cold war and in decisions to begin disarming the American atomic arsenal. But some experts contend that an important part of that story begins with Mr. Udall. Byproduct of Arms Race

"He got America to recognize that there was a tragic human face associated with the arms race," said Robert Alvarez, an investigator on Senator Glenn's Committee on Governmental Affairs and co-author of "Killing Our Own" (Dell, 1982) a history of the nation's experience with the atom. "Stewart forced the atomic weapons industry to begin to fall under democratic control. And when it did, it led to further revelations that unraveled the consensus that had allowed the Government to operate without anybody questioning them."

Stewart L. Udall was born in 1920 in St. Johns, Ariz., the oldest son of six children raised by Louise Udall and her husband, Levi, a Mormon and self-educated lawyer who ended

his career as Chief Justice of the Arizona Supreme Court. Mr. Udall and his younger brother Morris, a future Congressman and 1976 Presidential candidate, followed in their father's footsteps, opening a law practice together in Tucson in 1949.

The older brother won the first of his three terms in Congress as a Democrat from Arizona in 1954. His seat was taken by Mo Udall in 1961, when he was named by President Kennedy to become Secretary of the Interior, a job he commanded as only one man before him had, Harold L. Ickes, who served during the Depression, and none since.

From 1961 to 1968, Mr. Udall wrote or helped to write four landmark conservation laws, among them the 1964 Wilderness Act, which permanently safeguards tens of millions of acres of forest from logging, mining, and road-building. He established four national parks, 56 wildlife refuges, 8 national seashores and lakeshores, 9 national recreations areas and 22 national historic sites. Cold War History

Yet Mr. Alvarez and other nuclear experts who have followed his career say Mr. Udall's greatest work may have come after he left Washington, when he challenged the Government's nuclear warriors.

When the last lawsuit was concluded, Mr. Udall moved to Santa Fe two years ago to live next-door to his son Tom, who was elected New Mexico's Attorney General. Each morning Mr. Udall awakens early, pads into his study, and reckons with the country's cold war experience and his role in it in a book he is finishing, his fourth.

"The atomic weapons race and the secrecy surrounding it crushed American democracy," Mr. Udall said in a interview. "It induced us to conduct Government according to lies. It distorted justice. It undermined American morality. Until the cold war, our country stood for something. Lincoln was the great exemplar. We stood for moral leadership in the world."

Until 1978, Mr. Udall said he had known little about the behavior of the officials inside the Atomic Energy Commission and its successor, the Department of Energy.

Then came the plea for help from his cousin in Alamo. Over the next decade, Mr. Udall, a team of other lawyers, and four of his six children investigated and litigated the three lawsuits asserting that Americans had been harmed by the Government's negligent management of the nuclear-arms industry.

The first suit was brought by thousands of men, women and children in the Southwest who said they had been harmed by radioactive fallout from the atmospheric testing of atomic bombs in the 1950's and early 1960's. The second was brought by families of Navajo men who had mined uranium for the Government and were disabled or killed by

lung cancer caused by radiation in the mines. A third suit, still pending, was brought by workers at the Nevada Test Site. Power of Government

Ultimately, the first two lawsuits failed because the Federal Tort Claims Act of 1946 gives officials broad discretion to carry out programs, whether or not they cause injuries. When the Supreme Court declined to hear the cases in the late 1980's, Mr. Udall said he was crushed.

In the spring of 1988, Navajo leaders asked Mr. Udall to come to the reservation in northern Arizona to explain what happened. Mr. Udall said he could not face them. "They believed in me," he said slowly, the memory evident in the hardened corners of his mouth. "They believed in our system of justice. I had told them the courts would listen. It was almost as though I had lied about our system of justice. That if you were patient and persistent, there would be justice at the end. At that point I thought we had reached the end."

For months, Lee Udall said, her husband, normally a tower of energy and moral fire, moped around their house in Phoenix. Mr. Udall said he had been broken in spirit and in finances.

He even refused an appeal by a friend, former Representative Wayne Owens, Democrat of Utah, who called him in the summer of 1988 for help in writing a bill to compensate the victims. Mr. Udall told Mr. Owens he was too broke to pay for a plane ticket to Washington and too discouraged to be much help. "I thought it was another lost cause," Mr. Udall said.

But Mr. Owens, who lost the election for a Senate seat last year, persisted. In 1989, Mr. Udall made the first of a number of trips to Washington to write the legislation and lobby for its passage. He helped build the coalition of western Republicans in the Senate, led by Orrin G. Hatch of Utah, Pete G. Domenici of New Mexico, and Alan K. Simpson of Wyoming, who were needed to persuade President George Bush to sign the law on Oct. 15, 1990.

Justice Department officials, who administer the program, point out that by fighting for his clients Mr. Udall will receive legal fees provided by the compensation law.

Mr. Udall acknowledges that he, his family and several lawyers who helped with the lawsuits have received $570,000 in fees from 57 victorious clients and that they stand to gain $1 million or more in fees. But he noted that the payments come after 14 years of work, and he said he had spent at least $200,000 of his own money investigating and litigating the cases.

"If the pot gets sweet at the end that's fine," he said. "Whatever I get I will have earned. That is a fact. But that has not been my permanent concern. I have a personal commitment to my clients. You start a job. You finish it."

As for the compensation legislation, Mr. Udall says it is a statement that only the United States is capable of making. "It shows the country is resilient," he said. "It shows a willingness to admit mistakes. We still have the ability to let our children see our triumphs and how we betrayed our ideals."

A version of this article appears in print on June 8, 1993, Section A, Page 18 of the National edition with the headline: Santa Fe Portrait; A Longtime Pillar of the Government Now Aids Those Hurt by Its Bombs. Order Reprints | Today's Paper | Subscribe

Under the Cloud - The Decades of Nuclear Testing By Richard L. Miller (1986)	Page No.	Date of Test	Yield	Fallout in NM? Y or N	* disintegrations/minute/feet squared
Group 1					
Title Pg.					
App. C Maps of Fallout Trajectories	444				
Ranger: Able	445	Jan. 27, 1951	1 kt	N	
Ranger: Baker	445	Jan. 28, 1951	8 kt	N	
Ranger: Easy	445	Feb. 1, 1951	8 kt	Y, SW corner	
Ranger: Baker-2	446	Feb. 2, 1951	8 kt	Y, not NE corner	
Ranger: Fox	446	Feb. 6, 1951	22 kt	Y, SW corner	
Buster: Able	446	Oct. 22, 1951	less than 0.1 kt	N	
Buster: Baker	447	Oct. 28, 1951	3.5 kt	Y, NE corner	
Buster: Charlie	447	Oct. 30, 1951	14 kt	Y, NW & SE corners	
Buster: Dog	447	Nov. 1, 1951	21 kt	Y, SW corner	
Buster: Easy	448	Nov. 5, 1951	31 kt	Y, SW corner	
Jangle: Sugar	448	Nov. 19, 1951	1.2 kt	N	
Jangle: Uncle	448	Nov. 29, 1951	1.2 kt	N	
Tumbler-Snapper: Able	449	1-Apr-52	1 kt	Y, NE corner	
Tumbler-Snapper: Charlie	449	Apr. 22, 1952	31 kt	Y, upper 1/3 of NM	
Tumbler-Snapper: Dog	449	5/1/1952	19 kt	N	
Tumbler-Snapper: Easy	450	7-May-52	12 kt	N	
Tumbler-Snapper: Fox	450	25-May-52	11 kt	N	
Tumbler-Snapper: George	450	1-Jun-52	15 kt	N	
Tumbler-Snapper: How	451	5-Jun-52	14 kt	N	
Upshot-Knothole: Annie	451	17-Mar-53	16 kt	Y, NE corner (tiny)	
Upshot-Knothole: Nancy	451	24-Mar-53	24 kt	Y, not NE corner	
Upshot-Knothole: Ruth	452	31-Mar-53	0.2 kt	Y, SW corner	
Upshot-Knothole: Dixie	452	6-Apr-53	11 kt	Y, thru middle of state	
Upshot-Knothole: Ray	452	11-Apr-53	0.2 kt	Y, thru middle of state	
Upshot-Knothole: Badger	453	18-Apr-53	23 kt	Y, thru middle of state	
HOT SPOTS: Over 30,000 d/m/ft2*	453	18-Apr-53		Y, lower NE area	
UK: Badger: HOT SPOTS over 30,000 d/m/ft2	453	19-Apr-53		Y, thru wide middle of state	

Under the Cloud - The Decades of Nuclear Testing By Richard L. Miller (1986)	Page No.	Date of Test	Yield	Fallout in NM? Y or N	* disintegrations/minute/feet squared
Group 2					
UK: Badger: HOT SPOTS over 30,000 d/m/ft2	454	April 20, 1953-April 21, 1953		Y, NM-TX border	
Upshot-Knothole: Simon	454	25-Apr-53	43 kt	Y, throughout state	
Upshot-Knothole: Encore	454	8-May-53	27 kt	N	
Upshot-Knothole: Harry	455	19-May-53	32 kt	Y, SW corner	
Upshot-Knothole: Grable	455	25-May-53	15 kt	N	
Upshot-Knothole: Climax	455	4-Jun-53	61 kt	Y, NW corner	
Teapot: Wasp	456	Feb. 18, 1955	1 kt	Y, middle of state, NE corner 2 times	
Teapot: Moth	456	Feb. 22, 1955	2 kt	Y, lower half of state	
Teapot: Tesla	456	1-Mar-55	7 kt	Y, northern border	
Teapot: Turk	457	7-Mar-55	43 kt	Y, northern border & NE corner	
Teapot: Hornet	457	12-Mar-55	4 kt	Y, middle of state	
Teapot: Bee	457	22-Mar-55	8 kt	Y, lower 3/4 of state	
Teapot: Ess	458	23-Mar-55	1 kt	Y, thru middle of state	
Teapot: Apple-1	458	29-Mar-55	14 kt	Y, NW corner to SE corner	
Teapot: Wasp Prime	458	29-Mar-55	3 kt	Y, NW corner to nearly SE corner	
Teapot: Ha	459	6-Apr-55	3 kt	Y, NW corner to nearly SE corner	
Teapot: Post	459	9-Apr-55	2 kt	Y, across northern border	
Teapot: Met	459	15-Apr-55	22 kt	N	
Teapot: Apple-2	460	5-May-55	29 kt	N	
Teapot: Zucchini	460	15-May-55	28 kt	Y, across southern border	
Plumbbob: Boltzmann	460	28-May-57	12 kt	Y, across SW corner	
Plumbbob: Franklin	461	2-Jun-57	140 tons	N	
Plumbbob: Wilson	461	18-Jun-57	10 kt	N	
Plumbbob: Priscilla	461	24-Jun-57	37 kt	Y, NW corner to SE corner	
Plumbbob: Hood	462	5-Jul-57	74 kt	Y, plume circled state	
Plumbbob: Diablo	462	15-Jul-57	11 kt	N	
Plumbbob: John	462	19-Jul-57	2 kt	N	
Plumbbob: Kepler	463	24-Jul-57	10 kt	N	
Plumbbob: Owens	463	15-Jul-57	9.7 kt	N	
Plumbbob: Stokes	463	7-Aug-57	19 kt	N	

Under the Cloud - The Decades of Nuclear Testing By Richard L. Miller (1986)	Page No.	Date of Test	Yield	Fallout in NM? Y or N	* disintegrations/minute/feet squared
Group 3					
Plumbbob: Shasta	464	18-Aug-57	17 kt	Y, SE corner	
Plumbbob: Doppler	464	23-Aug-57	11 kt	N	
Plumbbob: Franklin Prime	464	30-Aug-57	4.7 kt	N	
Plumbbob: Smoky	465	31-Aug-57	44 kt	N	
Plumbbob: Galileo	465	2-Sep-57	11 kt	Y, northern border, NE corner	
Plumbbob: Coulomb B	465	6-Sep-57	0.3 kt	Y, NW corner to SE corner	
Plumbbob: Wheeler	466	6-Sep-57	197 tons	Y, NW corner to SE corner; NE corner	
Plumbbob: LaPlace	466	8-Sep-57	1 kt	Y, lower 2/3 of state	
Plumbbob: Fizeau	466	14-Sep-57	11 kt	Y, NW & SW corners, northern border	
Plumbbob: Newton	467	16-Sep-57	12 kt	N	
Plumbbob: Whitney	467	23-Sep-57	19 kt	N	
Plumbbob: Charleston	467	28-Sep-57	12 kt	N	
Plumbbob: Morgan	468	7-Oct-57	8 kt	Y, NW corner	
Nougat: Antler	468	15-Sep-61	2.6 kt	N	
Plowshare Gnome [in SE NM]	468	10-Dec-61	3 kt	Y, eastern 1/3 of state	
Nougat: Danny Boy	469	5-Mar-62	0.43 kt	N	
Nougat: Platte	469	14-Apr-62	1.85 kt	Y, NW corner to half of eastern border	
Tumbler-Snapper: Baker	469	15-Apr-52	1 kt	N	
Nougat: Eel	470	19-May-62	low yield	Y, SW to upper half of northern border	
Storax: Sedan	470	6-Jul-62	104 kt	N	
Nougat: Des Moines	470	13-Jun-62		N	
Storax: Little Feller II	471	7-Jul-62		N	
Storax: Johnnie Box	471	11-Jul-62	0.5 kt	N	
Storax: Small Boy	471	14-Jul-62	low yield	N	
Storax: Little Feller I	472	17-Jul-62	low yield	N	