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# Statement of Contamination On Guam

By Vancil Sanderson

My name is Vancil Sanderson and in 1966 I was stationed on Guam at the Naval Station, Cocos Island. Many years later, 1983, I started having severe health problems. In 1993 I was forced to apply for SSD and for my service connection. After 2 years of trying to get my military records, Congresswoman Barbara Vucanovich assisted me in getting my records. We found out that the military had purged the records of the experiment on Cocos Island. Other parts of my records were also purged. With the purging of my records I was forced to research my military service to prove my case for disability compensation and that it is service connected. The following is what I have found about the island of Guam and it's serious contamination problem.

In 1944 the Battle for Guam was fought. Many men died on both sides. Almost 20,000 people were killed in the battle. About 5,000 US and 15,000 Japanese. The war in the Pacific was coming to a climax. Guam was a key part on the attack of Japan. With all the dead on Guam and the war still raging a huge problem arose. Filth Flies and other disease carrying insects were multiplying by the billions on all the dead. There weren't enough people to do away with all the bodies to stop the problem. The answer to the problem was DDT. The island wide use started just after the battle. The entire island was sprayed by air day after day, month after month. The use of DDT by air may have gone on for years. DDT was also used in the disposal of many of the bodies. The bodies were DDT'd, wrapped or bagged then DDT'd, then put in graves and DDT'd again. DDT wasn't the only pesticide being used. DDT was used on Guam until it's ban.

Herbicides were being used in the building and maintenance of the infrastructure of Guam. I believe 10 military installations, both Navy and Air force, were built right after or during the war. Andersen AFB is the largest attack base in the world. It was used in the bombing of Vietnam. There were numerous Navy installations as well, NCS, Barricada Station, Guam Naval Complex (6 bases) and Naval Station Guam, Cocos Island Herbs were used to build these bases and to maintain them. The first herbicide used according to WWII veterans was Agent White. Veterans have also testified to the use of Agent Orange as early as 1955. Guam was a staging area for Vietnam and was used to store the rainbow herbs. At least as early as the Korean war the US was storing the rainbow herbicides on Guam. Agent Purple has been reported by the DOD as having been stored there during Korea, for use in Korea. I personally am in contact with 5 vets who used AO on Guam in the sixties, the earliest being 1962 and the latest 1969. Veterans who worked in the storage areas of Guam have taken pictures of the various herbicides. They have also written letters in support of the pictures and also stated they used these herbicides on Guam. It was even used in aerial spraying according to veterans.

Silvex, 2,4,5-TP, another of these herbicides can be found throughout the drinking water system of Guam, as well as 2,4-D, 2,4,5-T, 2,3,7,8-TCDD. The Northern Guam Lens Aquifer was the sole-source drinking water aquifer for Guam and is contaminated by every substance the military had to offer and some. Fena Lake is the water supply for the Navy and the Fleet that ported on Guam. The lake is surrounded by the Naval Magazine and is contaminated. The only way for these substances to get into the Northern Guam Lens Aquifer and Fena Lake is through military use or disposal. The aquifer, at the north end of the island, was contaminated by the 3 bases that sit atop it, Andersen AFB, NCS and NAS. The first year tested for Silvex in the aquifer was 1983 at the NCS wells. Silvex, which can contain more dioxin than Agent Orange, tested high at .21ppm. .05 is the MCL for Silvex.

Dioxin, the main substance of concern in these herbicides, can be found all over the island. The highest amount in the world I have been able to find is on Andersen AFB. 19,000 ppm in the soil. Higher than anywhere in Vietnam. This amount represents, not just dioxin from herbicides, but from the disposal of dioxin forming substances by burning. Burning substances like oil, organochlorine pesticides like DDT,

fuels, PCB's and a host of others. These burning ponds were on Navy bases as well. Wind patterns I have looked at for the island of Guam, would have been sending dioxin all over the island. During Vietnam and after the amounts must have been astronomical. I know PCB's are dioxin forming when burned and the island of Guam was not allowed to ship PCB's off island until 1993 or 94 per the EPA. What this means is that for years this substance and many more were disposed of on Guam. It didn't change until the EPA came into being and it wasn't until 1978 the military complex of Guam found they had a very serious problem with contamination. Especially in the drinking water.

What I have tried to describe is a very small island with a huge military presence. Pesticides were used in all facets of the military, especially on these pacific islands. Insecticides like DDT were used against the disease carrying insects. Herbicides like Agent Orange, Silvex and 2,4-D were used against the plant life. This is the way the military did things. Guam is just the worst case scenario.

Next I found, starting with the Nuclear Weapons testing in the Pacific, Operation Crossroads, that Guam was used as a staging area. Guam between 1946 and the end of the testing, 1963, was a part of the radiation zone for the testing in the Pacific. It was also being used as a decontamination site for the ships of the testing. Apra Harbor and Cocos Lagoon were the areas I found that were being used. (Cocos Island and lagoon tests high for pcb's, 265 times allowed and for Sr 89 and 90 at 4121 ppm on the base). Guam was also a storage area for contaminated munitions from the testing. Guam would have been receiving radiation from the bomb testing by way of water, air and contaminants from the storage and decontamination. I would like to take a quote from the "Blue Ribbon Panel Committee Action Report" on Guam. "What was perpetrated against this region was the largest ecological disaster in human history. This disaster was no less than the detonation of over 108,000 kilotons of nuclear explosive directly up jet stream of Guam. The amount of contamination was 42 times the approximately 150 million curies released as a result of testing in the United States of America." The report indicates that significant amounts of fallout from the testing existed until about 1974. I know the US Government had the Univ. of Washington testing the food supply, water and some vegetation from 1954 to about 1979. They have some of the samples archived. Other ways for radioactive contamination would have also come from the decontamination of planes. As I have said Guam was a part of the radiation zone and planes monitoring the bomb blasts followed and measured the fallout. The planes got pretty hot and some times the planes had to sit on the runway area to cool down before decontamination. This runoff from the planes was ending up in the aquifer as well. Radiation contamination was a fact on Guam and it had many sources.

Next is the contamination to the aquifer by way of military procedures or the way things were done for the time. The number one contamination problem for the military on Guam may have been TCE. Or it would be better stated that the synergistic effect of all the substances may be the big problem. Whatever way you look at it, it adds up to a lot of contamination of the most toxic substances the military uses. And it was running off unabated into the water supply for Guam and the fleet for at least 34 years. Feb. 1978 Andersen AFB, Guam, the air force finds it has a serious problem with TCE contamination to the water supply. The 11 wells of the Marbo Complex are contaminated, some severely. TCE continued to be a serious problem for the aquifer even after the discovery. The military's only way to combat the problem was to dilute the wells. Take the water from less contaminated wells and mix with the severely contaminated wells before consumption. Levels even then were high. Dilution isn't an efficient way to clean drinking water. At best it's a band aid solution, if that. It wasn't until about 1995 that the technology was developed and installed on Guam. This technology was developed for the military at McClelland AFB, Calif in the late 80's.

While stationed on NCS, Guam in 1966 and 67 I could taste, see and smell what appeared to be a solvent in the drinking water. According to ATSDR the level of TCE would have to have been at least 1,000,000 ppb. What this means is that all the levels of contaminants in the drinking water would have been much higher than indicated by the DOD. With my personal knowledge and hearings held before congress in Nov. 1987, this shows the contamination was extremely high. (Page 84 of the Mike Synar hearings before congress explains that all the readings released by the air force for Andersen AFB were diluted figures and didn't represent the true contamination levels of the aquifer) GAO reports for Guam support the dilution and

when it started. In the April and May 1987 reports it is stated that base commanders immediately started dilution upon the discovery of the contamination. It was discovered in Feb. 1978 and all readings after this time, Mar. 1978 on, were diluted. What this means is that there was a lot of contamination going into the aquifer and ultimately being consumed by military and civilian personnel. The TCE levels were a huge problem because of all the types of uses and how the military did things during Vietnam and before. TCE was the solvent of choice and used to wash down planes after each flight. It was a mixture of TCE and water. Andersen AFB was the largest attack base in the world and all flights for B-52's attacking Vietnam originated and ended on Guam in 1965, 66 and into 67. This represents 1000's of flights just for the B-52's. After each sortie the planes are washed down with the TCE mixture. The mixture then went into the drainage system and into the aquifer. Andersen's drainage system and numerous dummy wells (Dummy wells were punched all over Andersen for better recharge of the aquifer. May be as many as 200 of these wells) carried all the contamination directly to the aquifer. Any contamination that didn't make it to the drainage systems would have been runoff by the heavy rainfalls by way of the many sinkholes and dummy wells on the island. These sinkholes provided rapid transfer of contaminants from the surface to the aquifer, per the GAO, and were all over the island. The military was using some of these sinkholes as dumps. Some drainage systems were tied directly to the sinkholes and dummy wells. I would venture to say over 100,000 flights of B-52's took off from Andersen. Add in all the other types aircraft stationed, serviced and overhauled on Andersen and you could have had over a 1,000,000 planes done at Andersen just during Vietnam. Veterans who worked on the flight line also have told me after the B-52's left on a sortie, the bunkers, where all the prep work for the B-52's was done, were sprayed with the TCE mixture. Every bunker had a drainage system tied to the main drain for the flight line. TCE was the most widely used solvent for all air force operations.

The way the military handled it's toxic waste for years, was by dumping or burning and that was how it was done until the 80's. On Guam you have 3 military installations over the Northern Guam Lens drinking water aquifer. One is Andersen AFB which is an NPL site. The amount of contamination generated by Andersen during Vietnam would have been the highest in the world. All of this had rapid transfer to the aquifer. This is substantiated by the PHA and bioenvironmental engineering well reports for Andersen. The PHA shows how high dioxin and other toxics are on Andersen, the highest amount being 19,000ppm of TCDD in the soil. The bioenvironmental reports show the array of chemicals. There are many other sites with high amounts of dioxin. Site No. 31, Chemical Storage No. 4 (CS-4), had dioxin rates as high as 130ppm. This site is up-aquifer from NCS wells 1 and 1a (are now NCS A and B) The herbicide silvex is in high amounts in the NCS wells, .21ppm per GEPA in 1983. Dioxin (2,3,7,8-TCDD), 2,4,-D, 2,4,5-T and many more pesticides and chemicals can be found in the NCS wells, still today. There can be no drift, because the north end of this island is all military all the time. Just ocean and military. And the military is the only one using most of these substances.

The naval installations were also contaminating the aquifer, just not to the extent of Andersen. NCS and the NAS are superfund sites. Quite possibly NAS should have been an NPL site. They did things the same way as Andersen, dump and burn. Same types of toxic waste. Same wash down procedures that contaminated the environment. Same creation of dioxin by burning. Used the same types of insecticides and herbicides, for the most part. Applied and stored them the same. The Navy was handling the toxic waste just as the air force was, that was for the times. This is just the north end of the island and the contamination to the sole-source drinking water aquifer.

The south end consists of the Guam Naval Complex, less the NAS. The Naval Magazine surrounds the drinking water supply, Fena Lake, for the navy and the ships that ported on Guam. The magazine is a superfund site. All of the insecticides and herbicides (pesticides) were used in the same manner as other military installations. The base contaminated the environment around it including the lake. This lake, during and after WWII, would have been sprayed with DDT for control of disease carrying insects. Herbicides were used as well for control of weeds in and around the lake.

In all, the military is responsible for, and I believe this number is growing, there are 207 contaminated sites, 28 or more superfund sites and 2 NPL sites on Guam. The island of Guam is about 30 miles long by an

average of 8 and 1/2 miles wide. Massive amounts of pesticides were used in the military buildup and maintenance of the military complex on Guam. After the complex was built it was expanded and the military controlled about 2/3's of the island at the pinnacle.

There are health problems that coincide with the military buildup, neurodegenerative disease. It has many names but is best described by ALS/PDC. Neurodegenerative disease got to epidemic proportions between WWII and the middle 50's for Guam natives, the Chamorro people. I know the DVA is studying this disease in military personnel, stationed on Guam, at the VA center in Reno, Nevada. Same time frame. The study has been slowed due to a high response by veterans stationed on Guam. The problem with the study is that it doesn't cover a broad enough time period. The Board of Veterans Appeals (BVA) has found cases of Guam ALS in military personnel, who were stationed on Guam, as late as the early 70's. These aren't the only health problems associated with Guam. According to David B. Cohen in 2004, Deputy Assistant Secretary of the Interior for Insular Affairs, about Guam, "We see alarmingly high rates of diabetes, hypertension, obesity and many types of cancer and other diseases". I know in the Mike Synar hearings in 1987 the congress was initiating studies or already had of cancer, for a base or bases on Guam. I am or have been in contact with maybe as many as 100 veterans, and or family members, and or friends of these veterans who have these catastrophic illnesses. I have been contacted by some of the Chamorro people of Guam who are having numerous health problems. Whole families can be affected with diseases.

What we have is a small island that was strategic to the military buildup during and after WWII. Guam is still strategic to the US. Government document after government document supports the massive contamination to this island. The military pesticide manual explains totally how to use these substances and for what. All military installations on Guam followed the manual. The rainbow herbs, silvex and DDT were all used or stored on Guam. Veterans confirm the use of herbs like Agent White, during and after WWII. Agent Purple was stored on Guam for use in Korea. Agent Orange was used maybe as early as 1955, but I know veterans who used AO during the 60's and as early as 1962. I saw these herbicides being used in 1966 and 67. Many other veterans witnessed the use or used them. Veterans have pictures of the herbs and the naval yard where they were stored. DDT was passed out like condoms. If you need it use it. All our forays into the jungle, we had to use the DDT. Whenever the bug problem started to pick up, DDT was used on the perimeters and some distance into the jungle. Pesticides were used regularly around the barracks.

We have a wide array of pesticides, VOC's, Benzene, Toluene, PAH's, SVOC's, radionuclide and many other of the most toxic substances the military uses and all of this contamination was ending up in the drinking water. Of course there was contact through the skin and through inhalation upon the disposal and use of these toxics as well. Then you add in the Nuclear Weapons Testing from 1946 through 1963 and the use of Guam as a staging area for the testing and it was used for the decontamination of ships and storage for radiation contaminated munitions and equipment. You add all this up and there is a huge contamination problem. The health problems of the people of Guam and military personnel prove this. The hearings before Congress prove it. The EPA and GEPA documents prove it. The many GAO reports prove it. ATSDR proves it. The DOE and DOD proves it. And last and most importantly veterans and there sworn testimony prove it. All of these documents have been submitted as evidence in my case for service connection due to exposure.

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