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Section 5

Steve P. Witter
1824 Castlerock St
Wenatchee, WA 98801

June 29th, 2004

I Steve Witter, served with the 2nd Inf. Division, Chemical Company. We were based out of Camp Howze, Korea from 1968-1969. The Chemical Company was responsible for the application of herbicides in the North, South, East and Western areas of KOREA. Including areas in and around the Libby Bridge and Spoon Bill Bridge which I believe was pontoon bridge. We also traveled in and or near the DMZ. We also treated areas along and or near to the Imjin River with herbicide agents we commonly traveled by means of these bridges one bridge was also know as the Freedom bridge. We also traveled from one camp to another. Upon our arrival at each camp we were required to document the locations we had completed spray missions. At this time we received instructions/orders as to other areas in need of attention. An escort from the camp would direct us to the location needing attention. High risk areas such as the DMZ required a Piper Cub/ Bird Dog plane to confirm the area was clear and safe in order that we could enter the location. Our missions occurred on a daily basis consisting of many areas which were treated with herbicide agents to include more than just areas along the DMZ.

It was not uncommon for the Chemical Companies to spray locations throughout not only Southern areas of Korea but also the Northern I Corps including camp perimeters, mess hall areas, look out towers and some camp churches such as at Camp Howze. One of the look out towers was located in an extremely steep area. Others on my truck would not ride up the incline in the truck due to the high elevation and dangers regarding the trip up the mountain.

There appears to be some question as to whether Camp Casey was affected by the spray missions. The perimeter of Camp Casey and the mess hall was in fact treated with herbicide agents.

I do content that we in fact traveled and treated areas in Southern Korea but I am unable to recall all the names of these locations. One such location treated with herbicide agents was in Southern Korea which I am unsure of the name, but I clearly recall it being a location where our troops would perform target practice of the coast of Korea. I believe the island they would targeted was Turtle Island. I also recall tanks conducting target practice at this location. The point is that the location our troops were based at who performed these target practices is an area we did treat with herbicide agents.

I found it odd the hoses and tiers on the truck would soften like gum when exposed to the agents. The hoses on the tanks constantly melted causing them to break and created direct exposure. The rubber on the soles of our shoes would also turn soft and glue like. At no time were we ever supplied protective equipment. We were never warned that the agents were hazardous nor told that we could not dump the chemicals on roadways in rivers and or creek beds. We were never warned of the hazards of spray drift (wind). We commonly treated look out towers.

There appears to be some question as to whether members in the Engineering crews were exposed to herbicide agents. It was common for members of the US Military Engineer Construction crews to assist the Chemical Company during our spray missions. While on spray missions it was not uncommon for our trucks to get stuck in the mud and the Engineer Company would tow our trucks out. They also traveled the same roads we did in location were we had released agents.

I understood that the herbicide agents were transported to Korea from Vietnam. They were flown into Kimpo, Souel, Korea. The agents would then be trucked into Camp Howze to a staging area. Please note, Camp Howze was very close to Camp Eiler. We would receive about 30, 55 gallon drums on a flat bed truck at a time. The barrels were identified by a painted strip indicating the specific formula in the drum. Some of the herbicide agents were in powder form. All agents were combined with diesel in preparation for application. The agents were mixed in the tanks on the decontamination trucks. The trucks were dusin/ halves, with a 400 or 450 gallon tank attached to them. I was responsible for the maintenance of my truck, the tank and the mixing of the agents and on many occasions the application of the agents. Many times we found broken glass in the tanks as though it had been put there on purpose.

ROK members assisted in the application of herbicides. Members of the ROK were rotated on a daily basis. Some have said they were the only members to have made herbicide applications which I content is not true. I myself, on several occasion, made these applications.

Col. Hodge was head of the divisions chemical company.

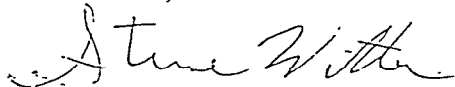
His staff would direct and escorted us to an area near the DMZ where herbicide agents were being tested. The area had tape which divided the sections into squares, resembling a checker board effect. It was made clear to me that several agents were being tested in each particular square. I am not aware of any other Military Chemical Company existed in Korea other than my particular unit which had a history and present in during the Korean conflict.

On a daily basis, units out of Souel would transport the agents to a staging area on the DMZ, or at a camp. This allowed us to address several locations with in that particular area. The staging area also provided a safe location where we could fill our tanks in preparation for the daily missions and to perform any mechanical repairs. We usually filled the tanks twice a day. In some cases a ¾ ton truck with a trailer loaded with additional herbicide agents would accompany us to avoid us from having to return to the staging area. There were three or four trucks in my unit making these daily applications. Typically after the applications of herbicide agents we found our skin and eyes would feel irritated, burning, leaving a grayish color to our skin. With in two days of treating a location we would return to the area and then burn it with Napalm. My partner Jim Reese drove the truck of Napalm. After burning the area, CS would then be applied by arial methods which would causes one to defecate, vomit and also feel burning of the eyes and skin. Because there weren't provisions in camps or at staging locations to dump the herbicides agents at days end, we would open the valve to drain the tanks. It was common maintenance practice for us to release the remaining agents on to road ways, road sides, in rivers including the Imjin River or into creek beds. We would release anywhere from 25 to 100 gallons of the agent before returning to camp to refill the tanks in preparation for the next days duties. We would try to clean the trucks daily but due to some of our locations this would not always occur causing others at staging areas to include camps to be exposed to the residual agent on the truck.

I am in hopes this statement clarifies some of the Chemical Companies activities during the time in which I served.

Repestfully,

Steve Witter,



WASHINGTON SHORT-FORM INDIVIDUAL ACKNOWLEDGMENT [RCW 42.44.100]

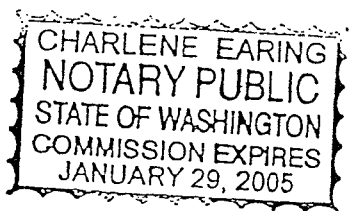
State of Washington }
County of Chelan } ss.

I certify that I know or have satisfactory evidence that Steve Witter
Name of Signer

is the person who appeared before me, and said
person acknowledged that he/she signed this
instrument and acknowledged it to be his/her free
and voluntary act for the uses and purposes
mentioned in the instrument.

Dated: 8-16-04
Month/Day/Year

Charlene Earing
Signature of Notarizing Officer



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1-29-05
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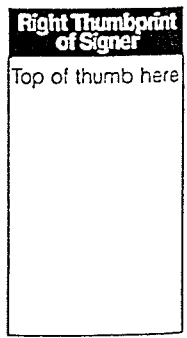
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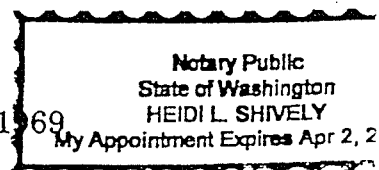
Topic Agent Orange

Korea - Agent Orange 1968 - 1969 Spec 4 Witter report to LTC Hodge 2nd Inf. Division Chemical Sections TDY. There were four decon trucks and four drivers to report to LTC Hodge 2nd Inf. division. Our job was to put Agent Orange on foliage. On our way up to the DMZ, we would stop and pick up rock soldiers that would be doing the work. We would have one rock captain or Lt., which would be the interrupter for me, and his six people that would be working for me. There would be three on one side of the truck and three on the other. They were on a cat walk on the truck. The tank was filled with diesel approximately 400 - 500 gallons run by a bean sprayer. From one end of the tank to the other, there were paddles which would mix the Agent Orange with the diesel. I would pour the bags of Agent Orange into the tank, and make sure everything on the truck was working. The rock soldiers would do the spraying. We had approx. 300 - 400 ft of hose and they would go out into the brush in the DMZ and spray as much as they could during the time working in the DMZ. After several days, we would go back in and burn the foliage. Then we would take twenty-five pound bags of CS gas with detonating cord around each bag and blasting cap. We would use a helicopter and throw the bags out, so the wash (air flow) would put the C-S down on the ground further. Spraying the Agent Orange, the rock soldiers and myself would be more or less soaked with the diesel and Agent Orange. The substance would be like real fine cement in bags. Toward the end of the day, I could only see the whites of our eyes and our teeth. As we got into the middle of summer and later on, one of the guys said look at your boots. He said look at mine, he could pull the rubber sole and it was like bubble gum. It would just snap back like a rubber band. We got looking at the tires on my truck and the rubber molding around the doors and windows were the same. Evidently, the Agent Orange and diesel mix would dissolve the rubber. I also noticed later on I would have more flat tires than before. The time that we were suppose to be on the DMZ second inf. division chemical TDY duty was from May 1968 to July 1968. But we hadn't finished the job, so I received an extension. I was there then until after Christmas on into 1969 and we kept spraying up until then.

One of our other jobs was to take fifty gallon drums and cut the tops out. Then take napalm, rocks, bottles, glass, nails, and whatever into these drums. These were called poo gas bombs. They were aimed toward the North Korea side of the DMZ. The people that were picked to do this were volunteers.

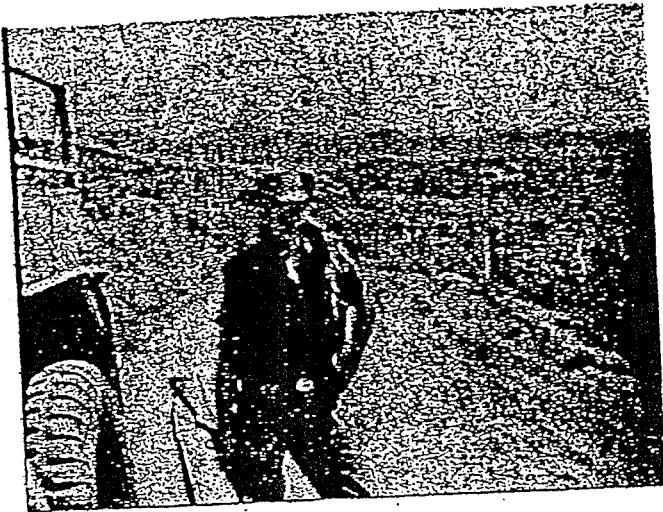
We also had tried to use Agent White and Agent Blue, but they were not as successful as the Agent Orange.

By: Steve P. Witter *Steve Witter*
1824 Castlerock
Wenatchee, WA 98801-2301 (509) 662-1773
Decon Unit (spread Agent Orange) Camp Howze 1968 - 1969



*State of Washington
County of Douglas*

Signed or attested before me on 11/20/03. Heidi L. Shively



Steve Witter

Steve Witter was a soldier in Korea during 1968 -1969. Steve served with a decontamination unit at Camp Howze. During his tour of duty in Korea, Steve not only witnessed the use of Agent Orange but actually mixed and spread the defoliant.

There were four decontamination trucks for the job. Steve's responsibility was to put Agent Orange on the foliage. On the way to the DMZ, they would stop and pick up R.O.K. (R.O.K. Republic of Korea) soldiers who would do the work. There would be one R.O.K captain or lieutenant, who would be the interpreter for Steve, and the six people working under him. Three men worked on each side of the truck. The tank was filled with diesel fuel, approximately 400- 450 gallons, run by a bean sprayer. From one end of the tank to the other there were paddles that would be used to mix the Agent Orange with the diesel. Steve would pour the bags of Agent Orange into the tank and make sure everything on the tank was working properly. There were approximately 300 to 400 feet of hose that the R.O.K soldiers would use to do the spraying. After a few days they would go back and burn the foliage. Then they would take C-S gas with detonating cord around each bag containing a blasting cap. Using a helicopter they would throw the bags out to cover more ground.

When using Agent Orange, the soldiers would be covered from head to toe and a person would only be able to see the whites of a person's eyes and his teeth. The substance was like real fine cement. Toward the middle of summer, men were looking at the soles of their boots and finding that it was turning into a bubble gum-like substance. The tires on the trucks and the rubber molding around the windows and doors were the same way. This substance evidently would dissolve the rubber leaving these men with many more flat tires than usual. This spraying was only supposed to last from May 1968 - July 1968, but continued much longer. This lasted until after Christmas of 1969. They also tried to use Agent White and Agent Blue, but neither was as effective as Agent Orange.

Steve also remembers cutting the tops of fifty gallon drums and filling them full of napon, rocks, bottles, glass, nails, and whatever else they could find to injure the enemy. These were called Poo Gas Bombs. These bombs were aimed toward the North Korean side of the DMZ.

In January 2000 Steve Witter was diagnosed with ^{TYPE II} rare diabetes called ^{WHA Cachexia} Ellenburg ^{Syndrom} Disease, which has caused many complications for Steve over the years.

Tonya Shippee

Section 6

Toxicological Profile for



CHLORINATED DIBENZO-*p*-DIOXINS (Update)

U.S. DEPARTMENT OF HEALTH & HUMAN SERVICES
Public Health Service
Agency for Toxic Substances and Disease Registry

5. POTENTIAL FOR HUMAN EXPOSURE

The loss of 2,3,7,8-TCDD in contaminated soil has been studied under natural conditions in experimental plots at the Dioxin Research Facility, Times Beach, Missouri (Yanders et al. 1989). The 2,3,7,8-TCDD concentration profiles of sample cores taken at Times Beach in 1988 were virtually the same as those in cores taken in 1984. The authors concluded that the loss of 2,3,7,8-TCDD due to photolysis at Times Beach was minimal in the 4 years covered by the study (Yanders et al. 1989). Estimates of the half-life of TCDD on the soil surface range from 9 to 15 years, whereas the half-life in subsurface soil may range from 25 to 100 years (Paustenbach et al. 1992).

A white rot fungus (*Phanerochaete chrysosporium*) has demonstrated the ability to degrade 2,3,7,8-TCDD in laboratory experiments (Bumpus et al. 1985; Des Rosiers 1986). In cultures containing 1.25 nmol of the 2,3,7,8-TCDD substrate, 27.9 pmol were mineralized to CO₂ in 30 days (2.23% metabolism) increasing to 49.5 pmol in 60 days (3.96% metabolism) (Des Rosiers 1986). It was suggested that the ability of this fungus to metabolize 2,3,7,8-TCDD is dependent on its extracellular lignin-degrading enzyme system (Bumpus et al. 1985; Des Rosiers 1986). More recently, Valli et al. (1992) reported that 2,7-DCDD also was degraded by *P. chrysosporium* via the removal of both aromatic chlorines before aromatic ring cleavage took place.

Cultures of *Pseudomonas testosteroni*, of an unidentified bacterium isolated from soil from Seveso, Italy, and of a mixture of 6 unidentified bacterial strains isolated from Seveso soil were incubated aerobically with ¹⁴C-2,3,7,8-TCDD for 35, 54, and 12 weeks, respectively (Philippi et al. 1982). Results showed the occurrence of a metabolite of ¹⁴C-2,3,7,8-TCDD in all three cultures. The polar metabolite amounted to approximately 1% of the input material and was found to be a hydroxylated derivative of ¹⁴C-2,3,7,8-TCDD (Philippi et al. 1982).

Approximately 100 strains of pesticide-degrading microorganisms were tested for their ability to degrade 2,3,7,8-TCDD (Matsumura and Benezet 1973). The organisms were maintained in liquid axenic culture, and the production of metabolites from ring-labeled ¹⁴C-2,3,7,8-TCDD was measured. Five strains were identified that showed some ability to degrade ¹⁴C-2,3,7,8-TCDD. The degradative organisms included a fungus (*Trichoderma viride*), a bacterium (*Pseudomonas putida*), and three organisms referred to by coded numbers (Matsumura and Benezet 1973).

To determine the persistence of 2,3,7,8-TCDD, concentrations of 1, 10, and 100 ppm of unlabeled 2,3,7,8-TCDD were added to 300-g samples of silty loam and sandy soils and then assayed periodically for

Section 7

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Naval Medical Command
Washington, DC 20372-5120

NAVMED P-5010-8
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Manual of Naval Preventive Medicine

Chapter 8
Navy Entomology
and
Pest Control Technology

DISTRIBUTION STATEMENT "A"



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have been determined and prepared or procured, may be dispersed in the following forms:

(a) *Gases and Vapors.* The dispersal of gases and vapors is termed fumigation. They must be handled with care and only under direct supervision of specially trained and certified personnel. Gases and vapors are used to penetrate packaged commodities, clothing and structures which are inaccessible to treatment by other residual methods. Because they lack residual properties, fumigants are used when other formulations are ineffective or because of penetration requirements. However, because of their physical properties, fumigants can be used only in airtight spaces which prevent ventilation. One type of fumigation, known as "vaporization," is accomplished by the use of solids such as dichlorobenzene (PDB), which at room temperature pass from a solid directly into a vapor. Fumigation procedures at military installations include the use of cyanogen phosphide gas (PH₃) for food commodity treatment, methyl bromide for vacuum chambers for clothing and textiles at major supply depots, PDB for clothing decontamination and sulfuryl fluoride for structural pest control against such pests as drywood termites.

(b) *Aerosols.* Aerosols are defined as a suspension of liquid or solid particles in air where the particle size usually ranges from 0.1 to 50 microns in diameter with most of the particles in the 0.1 to 30 micron range. Liquid droplets make up a fog and solid particles form smoke. Pesticide aerosols are frequently dispensed from hand-operated pressurized containers or larger ultra low volume dispersal equipment.

(c) *Mists.* Mists are dispersed particles in which the particles are intermediate in size between those of coarse sprays and fine sprays. Droplets in the 50 to 100 micron range are considered to be mists. They are less effective than aerosols for outside space treatment, but are adaptable for larviciding in areas accessible to people and for large scale residual spraying of vegetation. Because of their larger size, mists can be used over a wider range of weather conditions than can aerosols, and their residual effect is greater. Mist formulations may be either oil solutions or water emulsions.

(d) *Sprays.* Sprays are the most commonly used method of application.

1. *Fine sprays.* Fine spray droplets are considered to be from 100 to 400 microns in diameter. Droplets within this range remain airborne short periods of time and settle rapidly. Sprays of this type are frequently used as mosquito larvicides and for residuals.

2. *Coarse sprays.* These sprays consist of droplets over 400 microns in diameter and are applied directly to wet a surface. Coarse sprays are frequently used when using herbicides and when applying heavy loads of insecticide to fly breeding areas.

Application of Pesticides

Effects of Particle Size. Efficient application of pesticides requires the dispersal of the proper particle size for the type of application desired. The residual

quality of many insecticides makes it possible to kill by contact long after the material has been applied to walls, vegetation or other insect resting places. In order to take full advantage of the residual characteristics of a pesticide it should be applied only in the form of a coarse spray or dust. By contrast, efficient utilization of space sprays calls for their dispersal in much smaller particles. Coarse sprays are inefficient aerosols because the fewer number of droplets decreases the chances of target contact. Those particles which do contact the target may contain many times the amount of insecticide needed to effect a kill. Large particles fall to the ground while small particles may remain airborne for extended periods of time, providing more opportunity to contact targets. In this respect there is also a disadvantage in that unfavorable air currents or high wind velocity may cause rapid dispersal of the droplets into the atmosphere, and the small insecticide particles may be transported to non-target areas. Under favorable conditions aerosols or fogs are quite efficient for killing insects or other arthropods by means of space treatment.

(2) *Effect of Meteorological Conditions.* There are many conditions which may improve or reduce the effectiveness of the pest control program. In addition to a knowledge of the life history of the pest to be controlled, the proper choice of control technique, pesticide, and dispersal equipment, it must be remembered that meteorological conditions such as convection, relative humidity, wind velocity and direction, and temperature may add to the complexity of outdoor space spray operations.

(a) *Convection.* Once the pesticide is released from the nozzle, meteorological conditions are the only forces acting upon the particles. One of the most important of these is convection, or the upward and downward movement of a limited portion of the atmosphere. Convection influences the deposition of particles on the surface of the ground, foliage or target pest according to the existing temperature conditions. When the ground temperature is at least one degree cooler than surrounding air (inversion), aerosol droplets tend to drift near the ground within the zone where the target species is most likely to be contacted. Coverage of the area will generally depend on the wind conditions at the time. When the ground temperature is warmer than the air (lapse condition), small droplets in the mist and aerosol range tend to be carried up and out of the target zone by convection currents. Measurements of temperature to determine inversion or lapse conditions may be accomplished by using thermometers placed 0.3 and 1.8 m (1 and 6 ft) above the ground.

(b) *Wind.* Obviously, a fine spray or dust will be scattered over a very wide area during a high wind, especially under lapse temperature conditions. On the other hand, a lack of air movement will limit the pesticide distribution. Normally, it is an advantage to conduct outdoor space dispersal of aerosols if the movement of air is about 1 to 7 knots in a direction crosswind to the line of dispersal and toward the area to be treated.

(c) *Temperature.* Some pesticides may be more effective when air temperatures are 21 degrees C (70

5003/6

III. OPERATIONS AND TRAINING DEPARTMENT

1. OPERATIONS DEPARTMENT.

- A. DURING THE WEEK OF 5-7 JANUARY FOUR SUBMARINES AND ONE SURFACE SHIP WERE FUMIGATED WITH YAPONA (DICHLOMOTOS) IN KEY WEST, FLORIDA. BETTER THAN 98% CONTROL WAS OBTAINED ABOARD ALL VESSELS. A SEPARATE REPORT OF THIS OPERATION WAS SUBMITTED TO BUMED (COOE 7222) ON 13 FEBRUARY 1970.
- B. NAVAL AIR STATION, JACKSONVILLE PUBLIC WORKS DEPARTMENT WAS ASSISTED IN ELIMINATING CATS AND COCKROACHES FROM THE NAS OFFICERS' CLUB ON 5-6 JANUARY.
- C. A FOLLOW-UP INSPECTION OF FLOOR WHICH WAS FUMIGATED WITH PHORTOXIM AT NAVAL TRAINING CENTER, ORLANDO, FLORIDA ON 24 SEPTEMBER 1969 WAS MADE ON 16 JANUARY TO DETERMINE IF 100% CONTROL WAS OBTAINED OR IF REINVESTIGATION HAD OCCURRED. NO LIVE INSECTS WERE FOUND.
- D. ON 10 MARCH THE OPERATIONS OFFICER WENT TO KEY WEST, FLORIDA TO MEET WITH THE DIRECTOR OF THE MONROE COUNTY MOSQUITO CONTROL DISTRICT AND NAVY PERSONNEL RESPONSIBLE FOR MOSQUITO CONTROL IN THE KEY WEST NAVAL COMPLEX. THE PURPOSE OF THE MEETING WAS TO COORDINATE THE CONTROL PROGRAMS SO THAT MAXIMUM EFFECTIVENESS IS ACCOMPLISHED FOR THE ENTIRE AREA.
- E. A TRAINING COURSE ON THE OPERATION AND MAINTENANCE OF INSECTICIDE DISPENSER EQUIPMENT WAS GIVEN TO CB PERSONNEL AT THE U. S. NAVY CB BASE AT GULFPORT, MISSISSIPPI ON 12 MARCH 1970.
- F. THE COMMANDING OFFICER OF THE NAVAL STATION, NEW ORLEANS, LOUISIANA REQUESTED ASSISTANCE FOR DETERMINING THE EXTENT OF FORMOSAN TERMITE DAMAGE TO BUILDINGS ON THE STATION. ON 13 MARCH AN INSPECTION WAS MADE AND IT WAS FOUND THAT MANY OF THE BUILDINGS HAD SEVERE INFESTATIONS AND EXTENSIVE DAMAGE HAD BEEN DONE TO SOME OF THEM. RECOMMENDATIONS WERE MADE FOR CONTROL AND CORRECTIVE ACTION TO BE TAKEN TO REPLACE DAMAGED STRUCTURES.
- G. THE LOW VOLUME CONCENTRATE (LVC) SPRAY SYSTEM FOR FIXED-WING AIRCRAFT WAS DEMONSTRATED TO MEMBERS OF THE ARMED FORCES PEST CONTROL BOARD DURING THEIR ANNUAL MEETING ON 25 MARCH AS A STATIC DISPLAY.
- H. A KIT FOR THE DECONTAMINATION OF HIGHWAY SPILLS OF TOXIC INSECTICIDES OR OTHER ACCIDENTAL SPILLAGES HAS BEEN ASSEMBLED AND IS READY FOR USE.
- I. A COMPLETE MOSQUITO SURVEY OF THE NAVAL STATION, HAYPORT, FLORIDA WAS MADE ON 14 MAY. ALL BREEDING AREAS WERE MAPPED FOR STATION PEST CONTROL PERSONNEL.
- J. ON 21 MAY THE NAVY FUEL DEPOT, JACKSONVILLE BUILDINGS WERE INSPECTED FOR TERMITES AND TREATED FOR COCKROACHES.

K. ON 22 MAY A COOPERATIVE PROGRAM WITH NAS, PUBLIC WORKS OF ROENT AND FLY CONTROL WAS INITIATED AT THE NAS, JACKSONVILLE SPECIAL SERVICES STABLES. THE PROGRAM IS CONTINUING.

L. THE NAVAL FACILITY, GRAND TURK, B.W.I. WAS VISITED, ON 25-27 MAY AND ASSISTED WITH COCKROACH AND MOSQUITO PROBLEMS.

M. ADULT SALT MARSH MOSQUITOES WERE COLLECTED ALIVE IN CO₂ TRAPS AT THE MAYPORT NAVAL STATION ON 9-10 JUNE AND SENT TO THE STATE OF FLORIDA DIVISION OF HEALTH LABORATORY, PANAMA CITY, FLORIDA FOR DETERMINATION OF RESISTANCE TO ORGANIC PHOSPHATE INSECTICIDES.

N. FROM 20-24 JUNE THREE SUBMARINES AND ONE SURFACE VESSEL WERE FUMIGATED WITH VAPONA AT KEY WEST NAVAL STATION. PEST TREATMENT SURVEYS INDICATED 98% + CONTROL. RESULTS OF AIR SAMPLING THAT WAS DONE TO DETERMINE LEVELS OF TOXIC VAPORS OF VAPONA ARE NOT COMPLETED. A SEPARATE REPORT WILL BE FORWARDED TO BUREAU.

O. MOSQUITO SURVEYS WERE INITIATED AT THE BEGINNING OF THE MOSQUITO BREEDING SEASON AT NAS, JACKSONVILLE AND WILL CONTINUE ROUTINELY THROUGHOUT THE REMAINING SEASON.

P. EQUIPMENT REPAIRS - PARTS FURNISHED.

(1) A BUFFALO TURBINE SPRAYER WAS REPAIRED FOR NAVAL STATION, MAYPORT, FLORIDA.

(2) A BUFFALO TURBINE AND A JOHN BEAN SPRAYER WERE REPAIRED AND PARTS REPLACED FOR NAS, JACKSONVILLE.

(3) TWO GALLON, COMPRESSED AIR, HAND SPRAYERS WERE REPAIRED AND PARTS REPLACED FOR SIX SHIPS AND ONE STATION.

Q. DURING THIS REPORTING PERIOD FORTY-SEVEN TELEPHONE CALLS AND TWELVE LETTERS WERE RECEIVED REQUESTING ASSISTANCE AND INFORMATION.

R. TEN REQUISITIONS FOR INSECTICIDES WERE APPROVED FOR PROCUREMENT.

S. IDENTIFICATION SERVICES OF MOSQUITOES AND OTHER ARTHROPODS WERE PROVIDED TO NAS, JACKSONVILLE; NAS, CECIL FIELD; NAVAL STATION, MAYPORT AND THE AIR FORCE MISSILE TRACKING FACILITY AT ELEUTHERA, B.W.I.

T. SHIPBOARD PEST CONTROL.

ASSISTANCE WAS GIVEN TO THE FOLLOWING SUBMARINES AND SHIPS:

(1) USS THREDFIN (SS-410)
(2) USS FICHA (SS-382)
(3) USS CUBERA (SS-347)
(4) USS TIRANTE (SS-420)

(5) USS GRENADEER (SS-525)
(6) USS PENGUIN (ASR-12)
(7) USS STRIBLING (DD-867)
(8) USS VENTURE (MSO-496)

SECTION V

INDUSTRIAL HYGIENE

1. Major Surveys.

a. An inspection was made aboard a repair ship. Several hazards were noted and corrections recommended.

b. An Industrial Hygiene survey was conducted aboard an aircraft carrier. A number of occupational hazards were noted and corrective measures outlined.

c. In conjunction with LT. T.A. HILL, PMU2, Norfolk, Virginia, a three week study was completed in the Los Angeles area. The purpose of this study was to determine the amount of photochemically reactive solvents being released into the atmosphere daily by Naval activities and to correlate these findings with the provisions of Rule 66 of the Los Angeles Air Pollution Control District.

d. A survey was made of the shop areas aboard a submarine tender and recommendations for corrections were submitted.

e. A large Naval Supply Center was surveyed. Most of the industrial operations and Public Works functions which were once done aboard this Center have now been transferred to other Naval activities in the area. Thus only several minor discrepancies were noted.

2. Noise.

a. Two noise surveys were made at a local Marine Corp facility. Complaints of high frequency noise were received from personnel working near a large exhaust blower. Investigation revealed the noise was being generated by a defective bearing in the blower. Replacement was recommended.

b. An Air Station requested a survey of helicopter noise levels in relation to any effect this noise might have on the commercial development of land next to the station.

3. Ionizing Radiation.

a. FAA personnel requested that the high voltage sources in a radar transmitter be surveyed for x-ray leakage. The findings were insignificant.

- | | |
|------------------------------|--|
| (9) USS TRITIA (SS-421) | (14) USS SARATOGA (CVA-60) |
| (10) USS VITAL (MSO-474) | (15) USS ADAMS (DDG-2) |
| (11) USS BIGELOW (DD-946) | (16) USS SGT MORRIS E. CRAIN
(T-AK-244) |
| (12) USS SHAWNEE LA (CVA-38) | (17) USS LAWE (DD-763) |
| (13) USS ENGLISH (DD-696) | (18) USCGC PAW PAW |

COCKROACHES CONTINUE TO BE A MAJOR PROBLEM ABOARD U. S. NAVY SHIPS. ALL VESSELS LISTED ABOVE HAD MODERATE TO SEVERE INFESTATIONS. MOST OF THEM WERE EXPERIENCING DIFFICULTIES CONTROLLING COCKROACHES WITH THE STANDARD NAVY 5% DIAZINON RESIDUAL SPRAY. THE INTRODUCTION OF 1% BAYOON OIL SOLUTION INTO THE SYSTEM HAS ALLEVIATED THIS PROBLEM, TO SOME DEGREE, BUT PROBLEMS STILL EXIST. THESE PROBLEMS ARE MAINLY THE RESULT OF LACK OF TRAINING OR MOTIVATION ON THE PART OF SHIP'S PERSONNEL RESPONSIBLE FOR PEST CONTROL.

U. PROJECTS COMMENCED AND/OR COMPLETED DURING SEMI-ANNUAL PERIOD:

- (1) DURSBAN, PLASTER OF PARIS BRIQUETTES.

THIS PROJECT HAS BEEN TERMINATED AND RESULTS HAVE BEEN SUBMITTED FOR PUBLICATION.

- (2) FIRE ANT FUMIGATION.

FIRE ANT FUMIGATION HAS BEEN DISCONTINUED BECAUSE OTHER METHODS OF CONTROL ARE MORE EFFICIENT AND ECONOMICAL.

- (3) SUBMARINE FUMIGATION WITH YAPONA TO CONTROL COCKROACHES.

INITIAL TESTS IN 1967 USING 6.2% YAPONA (DICHLOROVOS) IN AN AEROSOL FORMULATION TO CONTROL COCKROACHES ABOARD SUBMARINES SHOWED PROMISING RESULTS. FURTHER TESTS WERE TERMINATED BECAUSE OF QUESTIONS RAISED CONCERNING TOXICITY OF THE MATERIAL. TOXICOLOGICAL CLEARANCE WAS OBTAINED THROUGH THE NATIONAL RESEARCH COUNCIL AND PERMISSION WAS GRANTED BY BUMED TO RESUME THE STUDIES IN JULY OF 1969. AFTER MAKING PRELIMINARY ARRANGEMENTS WITH COMSUBRON-12, KEY WEST, FLORIDA, FOUR SUBMARINES WERE TREATED WITH THE YAPONA AEROSOL FORMULATION IN JANUARY 1970. THE RESULTS WERE EXCELLENT. A REPORT OF THIS OPERATION WAS FORWARDED TO BUMED IN FEBRUARY. THREE ADDITIONAL SUBMARINES WERE TREATED IN JUNE OF 1970. AGAIN, RESULTS WERE EXCELLENT. IN CONJUNCTION WITH THE TREATMENT OF THE THREE SUBMARINES IN JUNE, AIR SAMPLING WAS DONE, BEFORE, DURING, AND AFTER FUMIGATION, TO DETERMINE LEVELS OF THE TOXICANT PRESENT AT THESE TIMES. RESULTS OF THE AIR SAMPLING ARE STILL PENDING. A FINAL REPORT OF THIS PROJECT WILL BE FORWARDED TO BUMED UPON COMPLETION OF THE ANALYSIS OF THE AIR SAMPLES.

- (4) AIRCRAFT FUMIGATION WITH YAPONA TO CONTROL COCKROACHES.

ONE C-123 AND FOUR HU-16 AIRCRAFT WERE FUMIGATED FOR THE U. S. COAST GUARD AT MIAMI, FLORIDA ON 23 APRIL. RESULTS WERE EXCELLENT. ADDITIONAL AIRCRAFT TREATMENTS ARE PLANNED WHENEVER THE REQUIREMENT EXISTS.

2. TRAINING PROGRAM.

A. RESERVE TRAINING PROGRAM.

A TOTAL OF 96 RESERVE OFFICERS AND ENLISTED PERSONNEL REPORTED FOR TWO WEEKS' ACTIVE DUTY FOR TRAINING. ALL COMPLETED A COURSE OF INSTRUCTION IN "BIOLOGY AND CONTROL OF VECTOR-BORNE DISEASES" OR A SPECIAL PROJECT RELATED TO THE TRAINEE'S INTERESTS AND THE NEEDS OF THIS CENTER. CLASSES CONVENED ON 19 JANUARY, 9 FEBRUARY, 5 APRIL, AND 31 MAY 1970. FIVE RESERVEES RECEIVED TWO WEEKS' ON-THE-JOB TRAINING.

TABLE 1.—REPRESENTATIVES OF INDICATED SERVICE ATTENDING TWO-WEEK COURSES.

	<u>ARMY</u>	<u>NAVY</u>	<u>COAST GUARD</u>	<u>AIR FORCE</u>	<u>TOTAL</u>
ENLISTED	2	60	1	0	63
OFFICERS	<u>20</u>	<u>13</u>	<u>0</u>	<u>0</u>	<u>33</u>
	22	73	1	0	96

B. BASIC FOUR-WEEK TRAINING COURSE.

THE SIXTY-SIXTH AND SIXTY-SEVENTH FOUR-WEEK COURSE IN "DISEASE VECTOR AND PEST CONTROL TECHNOLOGY" WERE CONDUCTED 2 MARCH THROUGH 27 MARCH, 27 APRIL THROUGH 22 MAY 1970. A TOTAL OF 37 STUDENTS WERE TRAINED. THIS CURRICULUM IS INTENDED FOR PERSONNEL ACTIVELY ENGAGED IN SUPERVISION, INSPECTION, OPERATION AND TRAINING ASPECTS OF DISEASE VECTOR AND ANIMAL CONTROL PROGRAMS. THE COURSE PROVIDES TECHNICAL BACKGROUND TO ASSIST CANDIDATES IN COMPLETING REQUIREMENTS FOR CERTIFICATION (NAVYACINST 6250.5). THE COURSE IS UNIQUE IN THAT IT PROVIDES ACTUAL ON-THE-JOB TRAINING WITH FIELD EXPERIENCE IN THE USE AND MAINTENANCE OF INSECTICIDE DISPERSAL EQUIPMENT.

CLASS SIXTY-SIX - 2 MARCH THROUGH 27 MARCH 1970.

AIR FORCE	5
CIVILIAN	10
NAVY	6
COAST GUARD	<u>1</u>
TOTAL	<u>22</u>

CLASS SIXTY-SEVEN - 27 APRIL THROUGH 22 MAY 1970

AIR FORCE	5
CIVILIAN	2
NAVY	7
FOREIGN	<u>1</u>
TOTAL	<u>15</u>

THE FOUR-WEEK COURSE IS OPEN TO ALL ACTIVE DUTY PERSONNEL OF THE ARMED FORCES AND TO CIVILIAN PERSONNEL OF THESE SERVICES ENGAGED IN PEST CONTROL ACTIVITIES. ATTENDANCE QUOTAS, OTHER THAN AIR FORCE, ARE ALLOCATED BY THIS CENTER. QUOTAS FOR AIR FORCE PERSONNEL ARE ASSIGNED BY HEADQUARTERS, AIR TRAINING COMMAND, (ATTENTION: ATTHO-P), RANDOLPH AIR FORCE BASE, TEXAS 78148.

C. THE CENTER'S TRAVEL TEAM (I.E., A TWO- OR THREE-MAN TEAM THAT CONDUCTS ONE-DAY SHIPBOARD PEST CONTROL TRAINING COURSES AT PRINCIPAL EAST AND GULF COAST PORTS) CONDUCTED COURSES FOR 244 STUDENTS (BUMEDINST 6250.8).

THIS TEAM IS AVAILABLE UPON REQUEST AT ANY TIME DURING THE YEAR WHEN THE CENTER'S SCHEDULE PERMITS. REQUESTS FOR THE SERVICES OF THIS TEAM MAY BE DIRECTED IN WRITING. TELEPHONE: AREA CODE 504-772-2424 OR AUTOVON: 522-2425.

D. CONTINUING IMPROVEMENTS ARE BEING MADE IN COURSE CURRICULUM MATERIAL WITH THE ADVICE OF INDIVIDUAL INSTRUCTORS. REVISIONS ARE MADE AS NECESSARY TO PROVIDE THE STUDENT WITH UP-TO-DATE INFORMATION REGARDING EQUIPMENT, PESTICIDES AND TECHNIQUES OF PEST CONTROL AND RELATED FIELDS.

Handwritten: PAU-5

1230 4

Handwritten: R

Handwritten: Code page 8
per Col G.

NAVI PREVENTIVE MEDICINE UNIT NO. FIVE
BOX 143, NAVAL STATION
SAN DIEGO, CALIFORNIA 92136

SEMI - ANNUAL REPORT
PERIOD ENDING 31 DECEMBER 1967

b. An old watch repair shop was to be renovated and it was requested that all areas be monitored for alpha contamination. Several contaminated work benches were found and recommendations were set forth for decontamination procedures.

c. During the course of this reporting period, 12 medical and dental x-ray units were inspected. All of them had either insufficient filtration or no filter at all. Half of them had no collimation device and no provision for operator safety. Two of these machines aboard ship were being used in the bunk area of sick bay, thus exposing everyone in the area.

d. Four industrial x-ray units were surveyed. All of these units were being monitored with Geiger-Mueller instruments. All monitoring personnel stated that they had been taught that this was the instrument of choice for monitoring x-radiation.

4. Miscellaneous.

a. A trichloroethylene vapor degreaser was surveyed at a Marine Corp installation. This unit was unvented and the vapor concentration in the air was several times the threshold limit. Correct operating procedures were outlined and adequate ventilation recommended.

b. A shipboard dry cleaning plant was surveyed after complaints of excessive solvent vapors were received. The ventilation system was found to be operating improperly and recommendations were submitted for correction.

c. Ventilation measurements were made at four battery repair and charging shops and improvements suggested.

d. Complaints from personnel in a printing shop initiated a survey. Improved personal hygiene was recommended.

e. Once again during this reporting period, Industrial Hygiene services were provided by this unit for Naval Air Station, North Island. A great deal of time was spent at that activity and the work covered all aspects of the Industrial Hygiene field.

Section 8

Main Identity

From: "Haynes, Bob" <bhaynes@hi-cone.com>
 To: <zolnoski@aol.com>; <lintrev@hotmail.com>; <nofingersus@yahoo.com>;
 <amanuel@asbank.com>; <amosezell@aol.com>; <arniehassler@aol.com>;
 <sebrightb@wayland.k12.mi.us>; "Bill Mynatt" <colbill@msn.com>; <bpentz@pacbell.net>;
 <robert_perron@us.ibm.com>; <bl4life@aol.com>; <saladir@bellsouth.net>;
 <morris@outdrs.net>; <c.commisso@att.net>; <c_marckwardi@juno.com>;
 <hjbezaury@qconline.com>; <jandave@tir.com>; "DAVE PECHTOLD(medicdave6@aol.com)"
 <MedicDave6@aol.com>; <ranger776@aol.com>; <dikalicki1@cox.net>; <vip5294@msn.com>;
 <sgiparpart@yahoo.com>; <fran@inebraska.com>; <diznee72@aol.com>;
 <fishersresort@frontiernet.com>; <collinsg@provide.net>; <jsharryjames@wmconnect.com>;
 <jaf01930@mindspring.com>; <jskiff007@aol.com>; <ewagon@earthlink.net>;
 <joe18@optonline.net>; <jcosgrove@triad.rr.com>; <john.pierson@emersonprocess.com>;
 <jqzoom@worldnet.att.net>; <konsengwon@netscape.net>; <kgaarde@wi.rr.com>; "Mary Ann"
 <k9kutz@dixie-net.com>; <mselman@edd.ca.gov>; <mike@rescoinc.com>;
 <mike.pope@usafa.af.mil>; "MOSES LEYBA JR. (MLEYBAJR@STX.RR.COM)"
 <mleybajr@stx.rr.com>; <pvm1327@aol.com>; <rainmakerblue@sbcglobal.net>;
 <2enjoy@msn.com>; <rdyson@cityblm.org>; <01vette@sbcglobal.net>;
 <resterly@sovereignbank.com>; <rhable@cfl.rr.com>; <ron68-69korea@cox.net>; "SKIP
 CORRELL(K4ERC@BELLSOUTH.NET)" <k4erc@bellsouth.net>; <tdk4vets@cwnet.com>;
 <Inttollhouse@aol.com>; <tbazdorf@crydom.com>; <tom68-69korea@comcast.net>;
 <bayonet7@npgcable.com>; "WALT FESZCHAK (LINUXPWRCOM@AOL.COM)"
 <linuxpwrcom@yahoo.com>; <allgood001@cox.net>; <wcarey@peoplepc.com>;
 <ja480@fresno.com>; <gailcoleman2003@yahoo.com>
 Sent: Tuesday, October 19, 2004 8:55 AM
 Subject: FW: Distillation and Agent Orange

Guys,
 Did any of you work in or near the water purification plants? Do you know anyone that did? Where were the plants located?

Ken Leighty,
 Do you have any information that may be useful?

Thanks to all.
 Bob

-----Original Message-----

From: Taura King [mailto:tdk4vets@cwnet.com]
 Sent: Tuesday, October 19, 2004 10:52 AM
 To: Haynes, Bob
 Subject: Distillation

This is a huge statement that we need to talk more about--I would like to know if there is anyone out there that worked in the purification plant--why--when dioxin is known to be in water--then put through a purification proc. heat is applied, chemicals and then the water is typically reduced to steam--it is the passed through copper or metal pipes of some type returned to a liquid state and stored in holding tanks--the problem with this is--Metal/copper tubing is a catalyst to dioxin and causes the dioxin to become enhanced--double it's strength. I have the reports on this but didn't even put 2 and 2 together with regards to Korea. The info I have related to Naval Veterans and how they became exposed to AO--distillation.

So anyone out there that worked in the distillation plants in Korea--If so I would like to talk to you.
 Taura

— Original Message —
 From: Haynes, Bob
 To: William Mynatt

10/24/2004

Cc: Taura King
 Sent: Monday, October 18, 2004 6:29 AM
 Subject: RE: Background info--Diesel-AO-802nd

Bill,
 This is good info that might be of some use. It makes me wonder what the purification process was and would it remove all the toxins that surely flowed into the Imjin.
 Taura???
 Bob

-----Original Message-----

From: William Mynatt [mailto:COLBILL@msn.com]
 Sent: Saturday, October 16, 2004 10:34 AM
 To: Haynes, Bob
 Subject: Re: Background info--Diesel-AO-802nd

Bob:

The water came from the Imjim River etc, but was taken to a purification plant near Camp House for processing before we used it. This was one of the reasons for the painful GG shots we received. If you drank the water in the village that was not purified your blood would become thin and cause a problem if you were wounded in battle. The GG shots thickened your blood.

Mynatt

— Original Message —

From: Haynes, Bob
 To: "Ski" Zolnoski (zolnoski@aol.com) ; ALBARO TREVINO (lntrev@hotmail.com) ; Albert Ambrose (nofingersus@yahoo.com) ; Allen Manuel (amanuel@asbank.com) ; Amos Ezell (amosezell@aol.com) ; Arnie Hassler (arniehassler@aol.com) ; Barry Sebright (sebrightb@wayland.k12.mi.us) ; Bill Mynatt ; Bill Pentz (bpentz@pacbell.net) ; Bob Perron (robert_perron@us.ibm.com) ; BOB ROBARGE (bl4life@aol.com) ; Bob Saladino (saladir@balisouth.net) ; BOYCE MORRIS (morris@outdrs.net) ; Cosimo Commisso (c.commisso@att.net) ; CRAIG MARCKWARDT (c_marckwardt@juno.com) ; Daniel Faulke (hjbzaury@qconline.com) ; Dave LaForrest (jandave@tir.com) ; DAVE PECHTOLD (medicdaye6@aol.com) ; DENNIS SMITH (ranger776@aol.com) ; Doug Kalicki (dkalicki1@cox.net) ; ED LEVENE (viper5294@msn.com) ; ED PARPART (sgtparpart@yahoo.com) ; Francis Burcham (fran@inebraska.com) ; Gerardo Cruz (diznee72@aol.com) ; Greg Fisher (fishersresort@frontiernet.com) ; Guy Collins (collinsg@provide.net) ; James Smith (jsharryjamas@wmconnect.com) ; JIM FRASER (jaf01930@mindspring.com) ; Jim Skiff (jskiff007@aol.com) ; JOE & BARBARA (ewagon@earthlink.net) ; Joe Keating (joe18@coionline.net) ; John Cosgrove (jcosgrove@triad.rr.com) ; John Pierson (john.pierson@emersonprocess.com) ; John Quick (jqzoom@worldnet.att.net) ; Julio Martinez (konsengwon@netscape.net) ; Kathe Gaarde (kgaarde@wi.rr.com) ; Mary Ann ; Merlin Selman (mselman@edd.ca.gov) ; Mike Darois (mike@rescoinc.com) ; Mike Pope (mike.pope@usafa.af.mil) ; MOSES LEYBA JR. (MLEYBAJR@STX.RR.COM) ; PATRICK MILAZZO (pvm1327@aol.com) ; RICHARD GAMEZ (rainmakerblue@sbcglobal.net) ; ROBERT JUCHNO (2enjoy@msn.com) ; Roger Dyson (rdyson@cityblm.org) ; Ron Belcher (01vette@sbcglobal.net) ; Ron Esterly (resterly@sovereignbank.com) ; RON HABLE (rhable@cf.rr.com) ; Ronnie Hebert (ron68-69korea@cox.net) ; SKIP CORRELL (K4ERC@BELLSOUTH.NET) ; Taura King (tdk4veys@cwnet.com) ; TED TOLL (tntollhouse@aol.com) ; Theo Bazdorf (tbazdorf@crydom.com) ; Tom Courbat (tom68-69korea@comcast.net) ; Tom Murray (bayonet7@npgcable.com) ; WALT FESZCHAK (LINUXPWRCOM@AOL.COM) ; Wayne Allgood (allgood001@cox.net) ; WILL CAREY (wcarey@peoplepc.com) ; WILL JOHNSON (ja480@fresno.com) ; William Coleman (gailcoleman2003@yahoo.com)
 Sent: Friday, October 15, 2004 10:18 AM
 Subject: FW: Background info--Diesel-AO-802nd

10/24/2004

Guys,
 Again we need to send info on the questions raised by Taura below. Read Taura's memo to understand the importance of doing this.
 We have come a long way but the goals are not complete.
 Thanks,
 Bob
 PS: I have no clue as to where our water at Camp Young came from. As the crow flies, I believe Camp Young was about a mile from the Imjin River.

-----Original Message-----

From: Taura King [mailto:tdk4vets@cwnet.com]
 Sent: Thursday, October 14, 2004 5:31 PM
 To: Haynes, Bob
 Subject: Background info--Diesel-AO-802nd

Hi Bob,
 Just so the group knows what I am up to.
 I have a letter that states Diesel fuel was sprayed on the roads for dust control and used to heat hooch's- petroleum products are very harmful and I want to address this with Cong. Evan's.

I also have a certified letter from an Veteran who served on the Deacon Unit that states that dumping un-used Herbicide agents in the rivers was a common practice. List the river/rivers you know Camps got their water from for drinking/ bathing etc. **WERE DID YOUR WATER COME FROM??**

I have a letter from Cong. Evan's that states the 802nd Engr's were instructed to bury left over Agents and the 55 gal drums in the ground from 1969-1978--All of the above calls for attention ASAP as this has real implications on other units not currently approved under the law and the time frames currently approved under the law.

All of you have seen what your support has all ready done to help others. Please consider writing a statement as detailed as you can, get it notarized and send it to me. I would like to be prepared to submit this no later than the 15th of Nov.

For those of you in touch with members of Benbow's group please forward this e-mail so they have an understanding at to what we need. Be sure to put you rank, name, locations where you served during the Korean Conflict.

Thanks guys and gals
 Taura

Hi Guys,
 We need some help with anything it is you can remember about diesel fuel usage. IN the motor pool, in the diesel fuel storage, use in the winter for heat in all the hooches. Anything you can remember and pictures if you have them.
 Thanks,
 Bob

PS: As time allows I will send out an update on the reunion.

-----Original Message-----

From: Taura King [mailto:tdk4vets@cwnet.com]
 Sent: Wednesday, October 13, 2004 10:17 AM
 To: Haynes, Bob
 Subject: Re: FW: Pleases send this out to the group--HELP

Bob,
 We need letters about how diesel was used for heating and did it emit fumes that you could smell--did you feel sick from it.

10/24/2004

Next--we need letters of where everyones water/drinking and bathing water came from. Did you eat the fish that came from the rivers if so name the river or rivers.

We need these asap mto assist Cosimo.

I will also be putting these letters in my packet to present to Cong Evans. These letter need to to be certified.
Taura

Main Identity

From: "Haynes, Bob" <bhaynes@hi-cone.com>
To: <tdk4vets@cwnet.com>
Sent: Friday, October 22, 2004 7:23 AM
Subject: FW: Distillation and Agent Orange

-----Original Message-----

From: Selman, Merlin@EDD [mailto:MSelman@edd.ca.gov]
Sent: Friday, October 22, 2004 9:25 AM
To: 'Haynes, Bob'
Subject: RE: Distillation and Agent Orange

Bob,

David Hannington of the RC#3 Website said the Water plant was run by civilians like the firestation.

Merlin Selman

Information Security Office

[REDACTED]
[REDACTED]
[REDACTED]

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-----Original Message-----

From: Haynes, Bob [mailto:bhaynes@hi-cone.com]
Sent: Friday, October 22, 2004 6:01 AM
To: 'Sldsnfrm@aol.com'; MSelman@edd.ca.gov
Cc: tdk4vets@cwnet.com
Subject: RE: Distillation and Agent Orange

Thanks Ken!!!

-----Original Message-----

From: Sldsnfrm@aol.com [mailto:Sldsnfrm@aol.com]
Sent: Tuesday, October 19, 2004 10:39 PM
To: bhaynes@hi-cone.com; MSelman@edd.ca.gov
Cc: tdk4vets@cwnet.com
Subject: Re: Distillation and Agent Orange

It was simply know as Water Point #3 and Water System #3. A similar set up can be seen in the attached.

Source; Office Of The Post Engineer
2nd Inf Div, 1965

Ken

Main Identity

From: <Sldsnfrm@aol.com>
 To: <tdk4vets@cwnet.com>
 Sent: Wednesday, October 20, 2004 8:45 PM
 Subject: Re: Distillation and Agent Orange

I looked a 5 different maps dated from the early 50's thru 1996. None of the small tributaries are named on these maps. And I don't remember ever hearing a name associated with any of them.

You have to remember that you are dealing with an area that was ravished by war just 12 years earlier. Hold towns were wiped off the map and slowly were rebuilt or replaced by smaller villages. Vegetation was minimal at best and no meaningful sanitation infrastructure existed. Laundry was done by pounding their cloths with a rock in the nearest water source.

These were 3 world living conditions. Homes (hootches) were heated by burning charcoal briquettes with the heat running thru ducts beneath the floors. Insulation was in the form of cardboard fastened to the interior walls and hand dug wells provided water. Most outhouses were shared by more than 1 family. No luxury such as seats, just a slit trench to straddle over. Waste was shoveled out, mixed with water and used to fertilize rice paddies.

Many of the tributaries flooded the rice paddies. They'd pull up a homemade gate to allow the water in. And, using the same method, empty the paddies back into the tributaries. (The EPA would have heart failure!)

The military did an excellent job in providing us with what we had. Running water and flush toilets does it get any better than that? LOL
 Ken

Also, you mention something about diesel fuel for our stoves. I think you'll find that it can be traced as far back as W.W.II. I once owned a small stove, used in tents (army issue) that was dated 1947. There was no other way to warm a tent when 'camping out' in the field. Especially in the near zero temperatures which always seemed to accompany such trips. It was also the fuel of choice for barracks stoves.

Water Pt#6 - Sat near a quarry along side a tributary. Approx 12 miles north of Camp Howze.

Water Pt#11 - Camp Peterson

Water Pump Station; Water System #4 - Camp Custer South

Water Pt#8 - Camp Rose

Water Pt#4 - RC#4

Water Pt#10 - Post Engineer Compound (Later named Camp Giant)

Water Pt#7 - Advance Camp (JSA Compound)

Water System #3; Water Pt#3 - RC#3

(see attached picture)

Water System #6 - Camp Blue Lancer Valley

Water System #2 - Unk Camp (Approx 1/2 mile north of Camp McGovern)

Water System #7 - Camp McIntyre

Water Pt#9; Water System #5 - Camp Snow

Water Pump Station - Camp McDonald Barracks

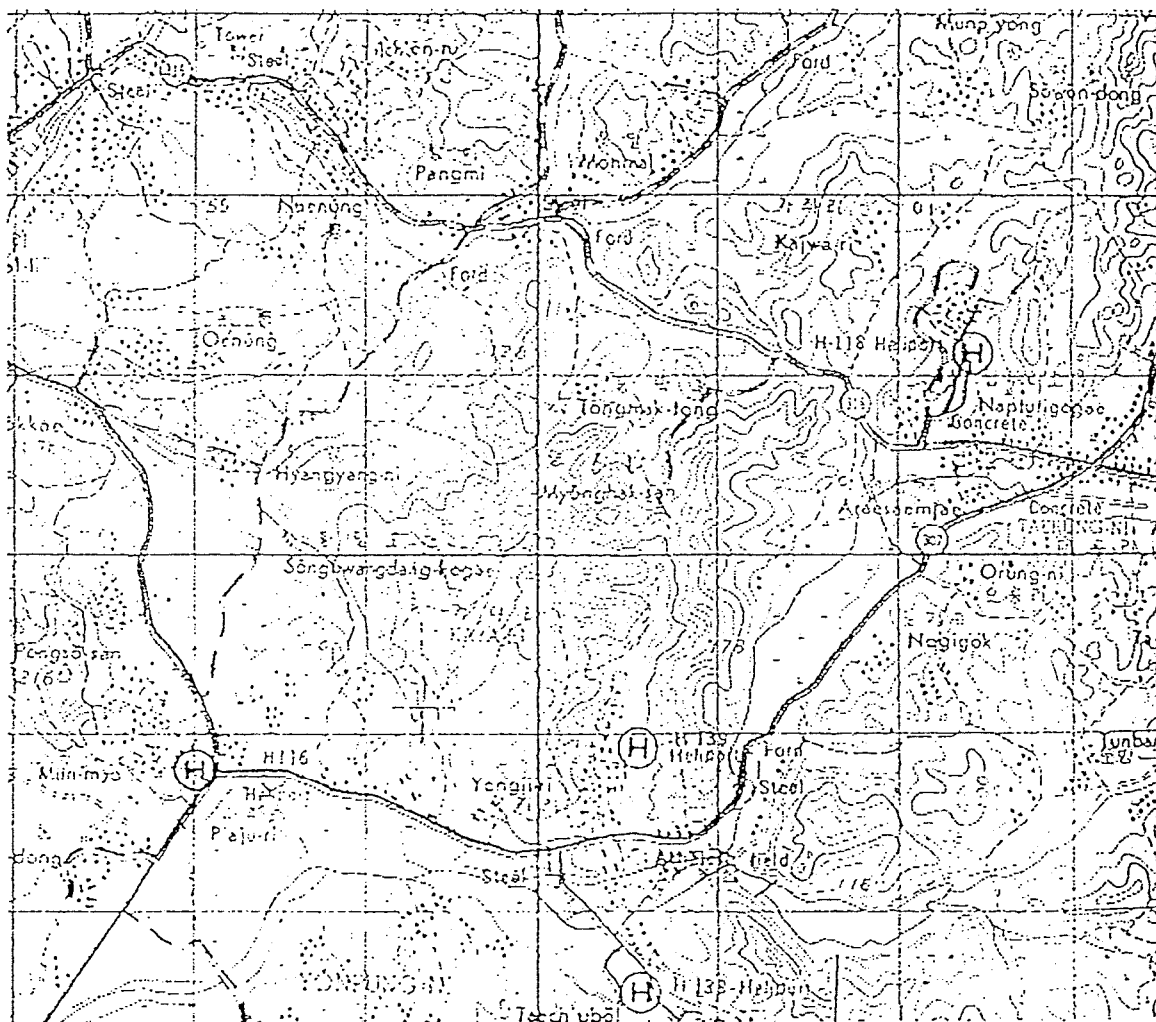
Water Pt#1 - Camp Adams

Water System #1 - Camp Beard (I remember a large blue water storage tank on top of the hill over looking Camp Beard and YongjuGol)

Main Identity

From: <Sldsnfrm@aol.com>
To: <tdk4vets@cwnet.com>
Sent: Thursday, October 21, 2004 8:22 PM
Attach: JAPass.jpg
Subject: Re: Distillation and Agent Orange

There was a large reservoir near RC#1 , (Camp Beard, YongjuGol) that I'm sure was used to draw water from. -See attached, bottom near atheletic field



Athletic Field

Section 9

July 30, 2004

To Whom it May Concern:

My name is James H. Skiff. I have been asked to document observations made during my tour in the Republic of Korea. I entered into Military Service on September 24, 1966 with the rank of 2nd Lieutenant, Service Number 0523514. In December 1966, after completing Armor Officer Basic Class #4, I was assigned for duty in Korea. Once there, I was assigned to the 3rd Brigade, 1st 23rd Infantry of the 2nd Infantry Division. I was assigned as the Platoon Leader of the Recon Platoon, HHC, 1st/23rd Infantry at Camp Young Korea, which was in the DMZ. The assignments I was given was to lead the Recon Platoon on patrols along our sector of the DMZ on the portion of what is known as the MDL (Military Demarcation Line) or the actual line that separated North and South Korea. We were also a primary reaction for when there were conflicts as well as manning OP Dort on the DMZ and conducting sweeps and ambush patrols as directed.

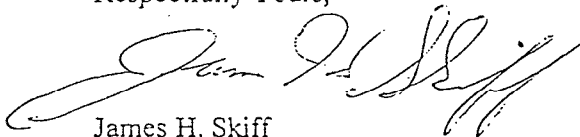
I have been asked to comment on the fact that during the "dry" season, it was commonplace for tankers to spread diesel fuel on the roads to hold the dust down. To the best of my knowledge, this was limited to diesel fuel. I will state that the spreading process caused the diesel fuel to cover the foliage adjacent to the roads and went into the drainage ditches.

I also make comment that during the winter months, diesel fuel was used to heat the soldiers quonset huts. There was always a "lingering" smell of diesel in the huts and it permeated bedding and clothing. On several occasions, I saw where the stoves malfunctioned causing heavy soot to fill the huts.

Due to previous orders, I left Korea and was sent to Vietnam where I served 1 1/2 tours. I returned to the United States and was stationed at West Point. I was Honorably Discharged in September, 1969.

To the best of my knowledge the statements I have made are true and represent my observations.

Respectfully Yours,



James H. Skiff
Captain, US Army Retired
101 Westlake Farms Drive
Blythewood, SC 29016

Shea K. Selmonson
Notary Public - State of South Carolina

7-30-2004
Dated

My commission Expires: 4-19-2010

Main Identity

From: "Haynes, Bob" <bhaynes@hi-cone.com>
To: <jandave@tir.com>
Cc: "'Taura King'" <tdk4vets@cwnet.com>
Sent: Thursday, October 14, 2004 5:34 AM
Subject: RE: Diesel Fuel

Hi Dave,
Thanks for the info. I agree, I wonder why we didn't all burn up with so much diesel spilled. Our heaters used to get red hot!
Thanks,
Bob

-----Original Message-----

From: David LaForest [mailto:jandave@tir.com]
Sent: Wednesday, October 13, 2004 10:49 PM
To: Haynes, Bob
Subject: Diesel Fuel

Hi Bob, Hope the reunion went well. Our heat was exclusively diesel, we had those stoves that looked like big tin cans and were cherry red hot. The smell of diesel was overpowering and although I don't remember being ill I could certainly understand how one could be sickened by the fumes, especially if the exhaust wasn't properly vented. When the diesel truck would come around they would spill diesel on the ground and the containers that we hooked up to the stove. I always wondered why they didn't start on fire with all the diesel on the container in the very close proximity to extreme heat. The guys who worked on the diesel truck were covered in diesel from head to toe. Those poor guys most likely developed some health problems later in life. I may have a picture of the stoves, I'll look around.

Keep Up the

Fire!

&n

bsp; Dave

L. David LaForest II

Main Identity

From: "Haynes, Bob" <bhaynes@hi-cone.com>
To: "Taura King" <tdk4vets@cwnet.com>
Sent: Thursday, October 14, 2004 5:32 AM
Subject: FW: Diesel Heathers for hooch

Hi Taura,
These are some pics from Ronnie Hebert.
Bob

-----Original Message-----

From: Ronnie Hebert [mailto:Ron68-69Korea@cox.net]
Sent: Wednesday, October 13, 2004 11:36 PM
To: Haynes, Bob
Subject: Re: Diesel Heathers for hooch

From The Desk of Ronnie Hebert
President: Vietnam Veterans of America, Chapter 553
Serving The Greater New Orleans Area

Hah,

I have pictures of the diesel heaters in the hooches...
That's me with the cigar in my mouth cleaning a dissembled heater. Note the diesel can in the fore ground.

Main Identity

From: "Haynes, Bob" <bhaynes@hi-cone.com>
To: "WJ Feszchak" <linuxpwrcom@yahoo.com>; "Taura King" <tdk4vets@cwnet.com>
Sent: Thursday, October 14, 2004 11:47 AM
Attach: x95tmp.jpg
Subject: RE: FW: FW: FW: FW: Pleases send this out to the group--HELP

Hi Walt,

Thank you for responding. Eventually this could help some of the guys.

Taura,

I worked some extra duty (bad boy) in the fall of 1967 putting in the winter supply of 55 gallon drums of diesel. We did all the work by hand and we did not handle the drums very carefully as one could attest by the leakage all over the ground and the trucks.

The fuel was then transferred from the drums to the 5 gal. 'jerry' cans, again there was spillage all over the place. Then the cans were hooked to the stoves, again there was spillage and the concrete floors were fairly well soaked with fuel. As Walt said, it permeated the air in the hooches and everything in the hooch.

The attached pictures will attest to how the drums were handled. They were rolled off the truck onto wooden 2x12's and then were rolled and stood upright. That is me on the right photo (attached) waiting for a barrel to come down the ramp of 2x12's.

When we were finished working, we reeked of diesel fuel and it was ground into our clothes, boots and our hands. As you would imagine, working without any gloves, we often had open sores that the diesel would surely seep into. I also saw diesel fuel sprayed in the company area and the roads to control dust during the dry summer season.

I was also told that herbicides were mixed with diesel as a method of spraying. I was also soaked with that when I was providing security detail for So. Koreans (ROK) forces spraying in the DMZ.

These statements are true and factual to the best of my recollection.

Bob Haynes

HHC 1/23rd. Inf. 2ID

Camp Young, Korea DMZ area

11/1966 - 11/1967

Imjin Scout

-----Original Message-----

From: WJ Feszchak [mailto:linuxpwrcom@yahoo.com]

Sent: Thursday, October 14, 2004 1:21 PM

To: Haynes, Bob

Subject: Re: FW: FW: FW: FW: Pleases send this out to the group--HELP

Thanks Bob:

later

/s/

— "Haynes, Bob" <bhaynes@hi-cone.com> wrote:

> From Walt.

> Bob

>

> —Original Message—

> From: WJ Feszchak [mailto:linuxpwrcom@yahoo.com]

> Sent: Thursday, October 14, 2004 12:15 PM

> To: Haynes, Bob

> Subject: Re: FW: FW: FW: Pleases send this out to
> the group—HELP

>

> sure, the diesel fuel let a thin film over

> everything...you can see it on the glass in the

> quanset huts and draw pictures if you wish ...

> the odor was prevalent through out the quanset

> huts...

> the floor thick with the fuel...drip pans needed

> cleaning...which was unrecognized by some troopers

> who

> were on duty...and the more 'advanced' troopers had

> to

> clean up the mess left by others....seems you can

> touch your face in the morning and feel the greasy

> film ...and I could not wait to change sheets for

> the

> cleaner...although insecticide soap was used...also

> on

> our fatigues and other wear.

>

> Korea was not a Club Med for this Trooper.

> /s/

> — "Haynes, Bob" <bhaynes@hi-cone.com> wrote:

>

>> Taura,

>> From Walt Feszchak.

>> Bob

>>

>> —Original Message—

>> From: WJ Feszchak [mailto:linuxpwrcom@yahoo.com]

>> Sent: Wednesday, October 13, 2004 8:53 PM

>> To: Haynes, Bob

>> Subject: Re: FW: FW: Pleases send this out to the
>> group—HELP

>>

>> Big Fuxxin issue!

>> ...

>> A motor pool dispatch shack

>> old commo vehicle burned to the ground

>> because diesel saturated the wooden floor.

>>

> > Diesel fuel stinks...and contaminates....
> > as it burns.
> >
> > Feszchak
> > — "Haynes, Bob" <bhaynes@hi-cone.com> wrote:
> >
> > > Hi Guys,
> > > We need some help with anything it is you can
> > > remember about diesel fuel
> > > usage. IN the motor pool, in the diesel fuel
> > > storage, use in the winter for
> > > heat in all the hooches. Anything you can
> remember
> > > and pictures if you have
> > > them.
> > > Thanks,
> > > Bob
> > >
> > > PS: As time allows I will send out an update on
> > the
> > > reunion.
> > >
> > > —Original Message—
> > > From: Taura King [<mailto:tdk4vets@cwnet.com>]
> > > Sent: Wednesday, October 13, 2004 10:17 AM
> > > To: Haynes, Bob
> > > Subject: Re: FW: Pleases send this out to the
> > > group—HELP
> > >
> > > Bob,
> > > We need letters about how diesel was used for
> > > heating and did it emit fumes
> > > that you could smell—did you feel sick from it.
> > >
> > > Next—we need letters of where everyones
> > > water/drinking and bathing water
> > > came from. Did you eat the fish that came from
> the
> > > rivers if so name the
> > > river or rivers.
> > >
> > > We need these asap mto assist Cosimo.
> > >
> > > I will also be putting these letters in my
> packet
> > to
> > > present to Cong Evans.
> > > These letter need to to be certified.
> > > Taura
> > >
> > >

10/14/2004

Section 10



Malathion's Chemical Name is
Dimethoxy Phosphino Thioyl Thio Butanedioic Acid Diethyl Ester

Malathion Molecule
 $C_{10}H_{19}O_6PS_2$

by Wayne Sinclair, M.D.
 Allergy, Asthma & Immunology (Immunology Board Certified)
 Richard W. Pressinger, M.Ed., Tampa, Florida
 email: research@chem-tox.com

The medical research below was located from the University of Florida and University of South Florida Medical Libraries. As can be seen clearly from the research summarized below, contrary to what the public is being told by the Agriculture Industry and some governmental agencies, scientists are stating that malathion (even at low levels) is in fact, a harmful chemical.


Malathion Index

Click topic or scroll through below

[Wildlife Photos](#) - Photos of animals killed, organs damaged & mutations from malathion

[Human Deaths from Malathion](#) - 5 die and 2,800 poisoned after spraying in Pakistan

[Intestinal Disorders in Children](#) - Take Note! this research does show significant public health problems after aerial spraying

[Intestinal Disorders in Test Animals](#) - more evidence supporting intestinal defects in children from malathion

[Leukemia](#) - Child leukemias develop after homes sprayed

[Kidney Damage](#)- Physician finds kidney damage after patient sprays home

[Human Birth Defect](#) - suspected from exposure to malathion lice shampoo

[Brain Damage](#) - for unknown reasons malathion causes far more damage in older brains

[Chromosome Defects](#) - found in human blood cells

[Gene Loss](#) - malathion is able to literally "knock-off" genes from our DNA molecule

[Review of Malathion Genetic Studies](#) - technically oriented - recommended for health professionals

[Health Disorders found in Second Generation Offspring](#) - evidence for harmful effects appearing in future generations

[Lung Damage](#) - unusual effect from malathion ingredient - not found in other pesticides

[Birth Defects](#) - occurs in hens after malathion feeding

[Impurities in Malathion](#) - highly toxic compounds increase during storage due to time and heat

[Immune System Weakening](#) - thereby increasing risk of bacteria or viral infections (2 studies)

[Sunlight Makes Toxic](#) - malathion reacts with ultraviolet light to become more toxic

[Impurities Weaken Detoxification](#) - impurities found to weaken ability of liver to detoxify

Breakdown of Malathion - time periods for malathion breakdown in soil - forming of malaaxon

Fish Heart Defects - heart defects appear in exposed fish

Fish Gill Damage - low levels of malathion cause deterioration of Blue Fish gills

Turtle Birth Defects - turtles unusually sensitive to birth defects

Frog/Tadpole Mutations - evidence of genetic damage

Shrimp Effects - malathion at low levels affects a shrimp's ability to locate food

Lizard Organ Damage - small lizards suffer internal organ damage

Unknown Risks of Malathion - Surprising information about what we do not know

Alternatives to Malathion for Medfly Control - The best alternative to malathion to date (for Medfly control only) is called "SUREDYE." This highly researched product is a food grade red dye which kills the medfly after ingestion and reacting with sunlight. The advantages are it does its job without poisoning beneficial insects, wildlife, the environment or people!

NEW Alternatives to Malathion for Mosquito Control - Research shows that the natural pesticide "pyrethrum" has characteristics which make it especially effective for eliminating biting mosquitoes without harming the environment or public health. Visit this company's web site which is producing a viable alternative..

Health Effects Research Summaries

- **Malathion Not as Safe as Believed - 5 Die - 2,800 Poisoned**

SOURCE: Archives in Toxicology, 42:95-106, 1979

The following information is from the report from the Bureau of Tropical Diseases, Center for Disease Control, Atlanta, Georgia entitled "*The Toxicological Properties of Impurities in Malathion.*" Below is a direct quote from the introductory abstract to the article:

"During a malaria eradication program in Pakistan in 1976, out of 7,500 spray men, 2,800 became poisoned and 5 died. The major determinant of the poisoning has been identified as isomalathion present as an impurity in the malathion. It seems almost certain that the isomalathion was produced during storage of the formulated malathion.

The quantitative correlation found between isomalathion content and toxicity of many field samples of malathion has been confirmed by an examination of mixtures of pure compounds. Addition of known amounts of isomalathion to technical malathion indicates that other active substances are present. These impurities have been identified (trimethyl phosphorothioates) and have been shown to behave like isomalathion in potentiating the toxicity of malathion. Some preliminary work on their toxicological properties is reported."

Drs. W.N. Aldridge, J.W. Miles, D.L. Mount and R.D. Verschoyle
Toxicology Unit, Medical Research Council Laboratories
Pesticides Branch, Vector Biology and Control Division
Center for Disease Control, Atlanta GA

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- **Intestinal Disorders in Children Born After California Spraying**

SOURCE: *Epidemiology*, 3(1):32-39, January, 1992

This is the first study to show evidence of harm to human health after aerial sprayings of malathion over human populations. Investigators surveyed 933 pregnancies identified through hospitals in the San Francisco Bay Area, in relation to exposure to the pesticide malathion, applied aurally to control the Mediterranean fruit fly. The good news is that after adjustment for confounding factors, there was no association found between malathion exposure and spontaneous abortion, intrauterine growth retardation, stillbirth, or most categories of congenital abnormalities.

However, it was found that children who had been exposed to malathion during the second trimester of pregnancy were showing over two and one-half times more gastrointestinal disorders (affecting the stomach and small intestines) in comparison to children not exposed to malathion during pregnancy.

Chem-Tox Comments: When the Florida Dept of Agriculture says there is no research showing harm to public health after malathion spraying - this is a complete and total lie as here is the research in black and white. This one study certainly raises enough of a red flag to immediately suspend all aerial applications of malathion and supports the animal research showing genetic defects and abnormal growth of cells after exposure to malathion. Unfortunately, this study did not investigate for increases in subtle neurological disorders such as language delays, attention deficits, learning disabilities, hyperactivity or conduct disorders, which the research has shown occurs with other chemicals at exposure levels far under that which causes physical health effects. To look at our website which summarizes the research showing modern chemicals at very low doses can cause subtle child behavior and learning disorders, please visit http://www.chem-tox.com/pregnancy/learning_disabilities.htm

**Department of Preventive Medicine
University of Southern California, Los Angeles**

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- **Intestinal Problems in Test Animals Exposed to Malathion**

SOURCE: *Bulletin of Environmental Contamination Toxicology*, 33:289-294, 1984

In support of the above findings of intestinal disorders observed in children born several months following the aerial spraying of malathion in California, this study also found malfunctions of the gastrointestinal system in test animals exposed to sub-lethal levels of malathion. Previous work by the same researchers at the Postgraduate Institute of Medical Education and Research, India, had found a single dose of malathion "*severely impairs the digestive absorptive functions of intestine*" (Chowdhury, 1980). In this present study, the investigators looked at how subchronic malathion exposure would affect digestion in rat intestine. After 45 days of exposure, the animals were killed and tests conducted on the intestines. Results showed a "*significant decrease in sodium and potassium ATPase activity which suggests the disruption of ion transport processes in intestine after pesticide exposure.*" There were also significant increases in glucose and other enzymes. In conclusion the researchers stated,

"It may be surmised that subchronic malathion treatment may produce aerations in microvillus membrane composition leading to observed changes in intestinal functions.... The results presented in this communication indicate that exposure to this pesticide may produce alterations in intestinal functions; however, the mechanism of pesticide interaction with intestinal epithelium remains to be elucidated."

**Drs. R.K. Wali, R. Singh, P.K. Dudeja, A.K. Sarkar and A. Mahmood
Department of Biochemistry
Postgraduate Institute of Medical Education & Research, India**

<http://www.chem-tox.com/malathion/research/>

3/17/2005

Gastroenterology Division
Michael Reese Hospital and Medical Center, Chicago, Illinois

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- **Child Leukemia & Aplastic Anemia after Malathion Exposure**

SOURCE: *The Lancet*, pg.300, August 8, 1981

Seven children with bone marrow disorders have been observed over the past 8 years by physicians at Travis Air Force Base Medical Center in California. The physicians believe the blood disorders, in all cases, were caused by organophosphate pesticides.. All blood disorders occurred shortly after exposure to the pesticides DDVP/protopoxur and malathion. The duration of inhaling insecticides ranged from 2 minutes in a patient enveloped in a thick insecticide fog in a small shed to 2 days in other patients whose homes were fumigated by their parents. Six patients had aplastic anemia and one had acute lymphoblastic leukemia. The physicians also cited research showing leukemia in farmers has significantly increased during the period of 1964 to 1976 (Mayo Clinic Proc, 53:714-18, 1978). Apple growers exposed to organophosphates had a higher incidence of leukopenia (very low white blood count) than a control population (*Canadian Medical Association Journal*, 92:597-602, 1965).

Drs. Jerry D. Reeves, David A. Driggers, Vincent A Kiley
Department of Pediatrics, David Grant Medical Center
Travis Air Force Base, California

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- **Kidney Failure After Man Sprays Malathion in Home**

SOURCE: *Journal of the American Medical Association (JAMA)*, Vol.250, No.18, Nov. 11, 1983

Whereas kidney damage has been observed in wildlife exposed to low levels of malathion (listed in other research on this page), the following is documentation of suspected kidney damage in a human patient reported by physicians at the St Luke's Hospital Kidney Center in Bethlehem, PA.. The following includes some technical observations for the benefit of our health practitioners.

A 65 year old man was admitted to the hospital because of swelling of his legs. Four weeks before admission, he began spraying intensively with malathion and noted intermittent inhalation and skin exposure. Three weeks before admission, he noted an increase in weight and, subsequently, peripheral edema. He had a five-year history of diabetes mellitus treated with insulin. He intermittently took cimetidine for dyspepsia. He denied use of nonsteroidal anti-inflammatory agents. The doctors summarized by stating:

"This patient experienced acute renal insufficiency with massive proteinuria that rapidly resolved without any specific treatment. The presence of membranous glomerulopathy and a marginally reduced C3 level suggests antigenic exposure with subsequent immune complex deposition in the kidney. He had no known exposure to drugs or toxins associated with the pephrotic syndrome and renal insufficiency. Cimetidine toxicity was successfully ruled out by rechallenge with this agent. There was no evidence of systemic collagen-vascular disease, and the biopsy specimen was not consistent with poststreptococcal glomerulonephritis or diabetes mellitus.

The development of overt renal insufficiency with massive proteinuria within three weeks of exposure to malathion suggests a causal relationship. Although our patient has no symptoms attributable to organophosphate poisoning, he may have had a latent exposure without clinical manifestations, although cholinesterase activity may be inhibited. Organophosphate exposure might cause immune complex formation by one of two mechanisms. Antibodies might react with the organophosphate directly or to native antigens that have been unmasked by a direct toxic effect of the organophosphate. We postulate that malathion provoked an immune complex nephropathy in this patient resulting in renal insufficiency and massive proteinuria, and we stress that this toxic agent must be handled accordingly."

Ronald K. Albright, MD; Barry W. Kram, DO; Robert P. White, MD;
St. Luke's Hospital Kidney Center, Bethlehem, PA

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- **Human Birth Defect Suspected from Malathion**

SOURCE: *Teratology*, 36:7-9 (1987)

Malathion has been shown to cause birth defects in a variety of wildlife and at levels lower than some other pesticides (see research below). An article printed in the journal TERATOLOGY, (Vol.36) has researchers suspecting malathion may have caused the birth defect known as "Amyoplasia," which is a disorder characterized by almost total absence of skeletal muscle. The birth defect occurred in an infant girl who died soon after birth. The main researcher, Dr. D. Lindhout, was concerned because the mother used a malathion head lice shampoo on several occasions during the 11th and 12th week of pregnancy. Dr. Lindhout also stated that malathion was a suspect in this type of birth defect because -

"When administered to adult animals, malathion and related thiophosphonates stimulate, and subsequently inhibit, the nicotinic sites in skeletal muscle, resulting in muscle weakness and paralysis. Neonates (newborn babies) are far more sensitive to these agents than adults, mainly because of a slower rate of detoxification of the metabolite (the metabolite in this case would be the liver breakdown product of malathion which has been shown to be far more toxic than malathion itself.)"

The doctors felt malathion was also suspect because there was no genetic history of this problem in the mother's or father's family and there was no evidence of drug use by the mother, except for the use of malathion head-lice shampoo during the early pregnancy.

Department of Clinical Genetics, Erasmus University, Rotterdam
Department of Child Neurology, University Hospital, Utrecht

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- **Brain Injury from Malaoxon at Lower Doses in Older Animals**

SOURCE: *Toxicology*, 79:157-167, 1993

The chemical malaoxon, formed from malathion, was found to cause neuronal (brain cell) injury in older adult male rats at doses of only one-fifth that required to cause similar injury in young adult rats. In this experiment, older rats (18 months) were given a single dose of malaoxon at levels of 8.7 mg/kg. Within 10 minutes there

were signs of salivation, fasciculations and tremors. Convulsions were observed within 15 minutes in 69% of the rats. The malaoxon also caused an increase of over twice the normal levels of calcium in the frontal cortex of the animals' brains. Researchers believe this fact alone could be directly toxic to brain cells. Significant reductions in the brain neurochemical inositol was also observed in rat's experiencing convulsions. Areas affected included the frontal cortex, hippocampus, thalamus and cerebellum.

To achieve the same intensity of symptoms and brain injury in young adult rats, it required malaoxon exposure at levels of 39.2 mg/kg which is nearly 5 times more than the 8 mg/kg dose causing brain injury in the older rats. In conclusion the scientists stated:

"In paraffin sections, the insult in the old rats characterized by the appearance of shrunken eosinophilic neurons often surrounded by edematous vacuoles. Vulnerable areas included hippocampal pyramidal cells, cerebral cortex and caudoputamen, while e.g. cerebellum and brain stem were spared."

Chem-Tox Comments: Studies such as this should generate serious questions as governmental safety exposure guidelines are based upon using young healthy test animals. We may therefore, be subjecting our elderly population to heightened neurological risk not observed in younger populations.

National Public Health Institute, Division of Environ. Health, Finland

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- **Chromosome Damage Occurs to Human Blood Cells**

SOURCE: *Mutation Research*, 301:13-17, 1993

Malathion was found to cause DNA abnormalities at all doses tested in human blood cells. Blood samples were drawn from three healthy non-smoking men, aged 23, 24 and 25. Four different concentrations of malathion (0.02, 0.2, 2 and 20 ug/ml) were added to the blood samples. Slides were then made of the blood samples and examined. Although all doses showed an increase in chromosome abnormalities, a significant increase was noted for doses of 2 ug/ml and 20 ug/ml. In conclusion, the researchers stated:

"The results show that malathion causes a dose-dependent increase in chromosomal aberrations as well as Sister Chromatid Exchanges in human leukocyte cultures....A dose dependent decrease in mitotic index was observed at all concentrations. Hence, our results suggest that malathion is a mild mutagen and at higher concentrations it might cause genotoxicity in humans."

Drs. M. Balaji, K. Sasikala

Division of Human Genetics, Department of Zoology

Bharathiar University, India

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- **Human Genes "Broken-Off" DNA Molecule by Malathion**

SOURCE: *Cancer Research*, 56, 2393-2399, May 15, 1996

This 1996 study found that in experiments of human white blood cells (white blood cells are the back-bone of our immune system) that malathion was causing "deletions" in one section of



the chromosome. In conclusion the scientists stated,

"This work provides the first evidence of an association between malathion exposure and specific mutations in human T lymphocytes."

A quick biology lesson - Genes are not just involved in passing hereditary traits. You have genes active in you at this moment that control what is happening inside every cell in your body every second of the day. There are 200 genes believed to control liver function and 200 genes believed to control immune system function. Your lymphocytes are a type of immune system cell which are extremely important in removing viruses and cancer cells from the body. The human aging process is simply a result of us losing about one-half to 1% of our genes yearly (*dogs lose over 4% which explains why they age more rapidly*). When we lose too many genes in the cells controlling one part of our health, we become sick - since the cells can't operate at high enough efficiency to do their job. It's a matter of balance - once our cells become so inefficient because of gene loss - then we too can die - the cycle of life. The lesson to be learned from this is we do not want to expose ourselves to chemicals (such as malathion) that can accelerate gene loss in important cells which are protecting us from bacteria, viruses, etc.

Genetics Laboratory, University of Vermont, Burlington, Vermont

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- **Health Problems Appear from Malathion in Second Generation**

SOURCE: *Nature*, November 4, 1961

Pregnant test animals exposed to malathion in this study did not show any physical health effects. When their offspring were born there were also no obvious health effects observed. **However**, when these offspring matured and had their own babies - the researchers found this newest litter had significantly lower body weight, grew slower and had approximately twice the number of infections..

ChemTox Comments: This research provides strong evidence for the potential for health problems to appear long after the malathion spraying has stopped..

Department of Pharmacology, University of Toronto

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- **Lung Damage Occurs from Single Oral Dose of Malathion**

SOURCE: *Toxicology*, 26:73-79, 1983

An unusual effect has been observed from exposure to malathion that has not been observed with other pesticides. A single oral dose of the chemical trimethyl-phosphorothioate (a toxic contaminant present in all malathion), at levels of 20 milligrams per kilogram body weight, was found to cause a reduction in lung cells in the bronchiolar epithelium of rat lungs. While the number of lung cells in a given area of lung tissue in normal rats was over 50, there were only approximately 20 cells found in the same area of lung tissue for rats exposed to the one dose of the malathion impurity. No lung damage was seen when purified malathion was administered. In conclusion, the researchers stated:

"Trimethyl-phosphorothioate and other impurities of malathion are formed as side products during the

manufacturing process (of malathion). Most organophosphorus insecticides are high boiling liquids which cannot be readily purified by inexpensive, conventional methods. Therefore, it is not possible to eliminate impurities completely without prohibitive increase in costs. In short, organophosphate insecticides such as malathion will continue to contain impurities such as trimethyl-phosphorothioate. Further, impurities may be formed during storage at high temperature or by photochemical reaction. Because of potential human hazards arising from exposure to these compounds, their toxicology and mode of action should be completely understood."

Division of Toxicology & Physiology, University of California, Riverside

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- **Feeding of Malathion to Hens Causes Birth Defects**

SOURCE: *Agricultural Research Laboratory, Utah State University*

Three hundred twelve white hens and 65 adult white males were divided into groups and fed a diet of a laying mash to which malathion and the pesticide carbaryl were added singly and in combination at levels of 0, 75, 150, 300 and 600 ppm for 3 weeks. Quoting the scientists regarding the observed effects,

"Eggs were collected daily and incubated to determine hatchability and teratogenic effects (birth defects). As the levels of pesticide in the diet increased, the hatchability decreased significantly. The percentage of deformities increased significantly as the concentration of pesticide in the diet increased. Marked deformities were observed in the chicks that developed. Other findings were the liver and kidney stored more malathion than other tissues."

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- **Malathion Becomes More Toxic When Stored for 3 months or When Temperature Increases**

SOURCE: *Journal of Agricultural Food Chemistry*, 25(4):946-953, 1977

The technical grade malathion (the type we are exposed to) contains approximately 11 impurities. It is these impurities which scientists state are the main poisoning ingredients in malathion. One impurity has been shown to be approximately 500 times more toxic than purified malathion (based on the amount needed to kill test animals - LD-50 is 20 mg/kg compared to 10,000 mg/kg for purified malathion). It is called - **O,S,S-trimethyl phosphorodithioate (OSS-TMP for short)**. Researchers state this, and other malathion impurities, actually increase in amounts during simple storage (especially 3-6 months after manufacture), making malathion far more toxic than when it was first manufactured. **OSS-TMP** and other impurities have also been shown to increase even more rapidly when exposed to temperatures around 100 degrees. How high do the temperatures become for the drums sitting in direct sunlight or at the Tampa Airport in the non-air conditioned rooms?

Effect of Impurities on the Mammalian Toxicity of Technical Malathion and Acephate.

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- **Immune System Weakens after Malathion Exposure**

SOURCE: *The Journal of Immunology*, 140(2):564-570

Technical grade malathion contains chemical impurities which have been found to weaken immune system function, including a weakening of a type of white blood cell called "cytotoxic lymphocytes" (which attack cancer cells and virus infected cells). The picture at right shows six of these white cytotoxic lymphocytes (let's call them CTL's for short) successfully attacking a cancer cell (National Geographic). These lymphocytes can also attack viruses in the body. Malathion has now been shown to significantly weaken the CTL's ability to perform their job effectively.



Chem-Tox Comments: This research addresses the paradox regarding the New York City malathion spraying. As encephalitis has been shown to only affect people with a weakened immune system who are unable to efficiently combat the disease (i.e. elderly and immune compromised individuals) it must be considered that malathion has the potential in itself to increase encephalitis cases as the spraying of the pesticide can weaken a person's immune system, thereby, making them more vulnerable to the disease.

University of Virginia

Inhibition of Cytotoxic T Lymphocyte and Natural Killer Cell Mediated Lysis by OSS-Trimethyl Phosphorodithioate is at an Early Postrecognition Step.

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- **Report Links Pesticides with Immune System Problems**

SOURCE: *SCIENCE NEWS*, March 9, 1996

According to a report by the Washington, D.C. based group, *World Resources Institute* (WRI), many pesticides appear to be increasing the incidence of infections, pneumonia, ear infections, and tuberculosis. The three pesticides listed as causing this problem were DDT, malathion, and the pesticide aldicarb. A summary of the report, appearing in the March 9, 1996 issue of *Science News*, outlined many of the studies linking pesticides with weakening of the immune system. One of the groups commissioned researchers, Dr. Lyudmila Kovtyukh, of the Academy of Sciences in Kishinev, Moldova (a republic between Romania and Ukraine), found that children living in areas where pesticides had been most heavily applied experienced elevated rates of acute respiratory diseases (including pneumonia), as well as many other signs of immune system weakness. If you would like to read the entire March 9, 1996, *SCIENCE NEWS* article, it has been placed on the internet by *SCIENCE NEWS* and can be seen by clicking [Science News Immune System Toxicology](#).

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- **MALATHION UNDERGOES DANGEROUS REACTION IN SUNLIGHT**

Malathion undergoes a chemical reaction in sunlight called "photolysis" which results in increasing the formation of the highly toxic trimethyl impurities. -

Journal of Agricultural Food & Chemistry, 27(6):1423

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- **IMPURITIES IN MALATHION FOUND TO DISABLE THE BODY'S NATURAL ABILITY TO DETOXYFY MALATHION**

SOURCE: *Toxicology and Applied Pharmacology*, 49, 107-112 (1979)

Once malathion enters the body, it needs to be removed so harm is minimized. This is the job performed in part by enzymes in the liver of all organisms. However, this research showed that the malathion impurities - to quote the scientists - "*diminish the activities of the enzymes involved in the malathion detoxification.*" In other words, the impurities damage the body's natural way of detoxifying the poison with the end result being the chemical stays in the body for longer periods of time when exposure is to the technical grade malathion and especially if subjected to heat and long duration storage.

Division of Toxicology and Physiology, University of California, Riverside

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- **Malathion Breaks Down into even More Toxic - Malaoxon**

SOURCE: *Bulletin of Environmental Contamination Toxicology*, 57:705-712, 1996

In trying to calm the fears of Tampa residents, representatives for the Florida Department of Agriculture have made public statements that after application, malathion "*breaks-down*" in a matter of hours. What they don't tell you is that malathion can actually break-down into compounds which are more poisonous than the malathion itself. This is, in fact, the conclusion of research from a graduate project by researcher N. E. Barlas at the Department of Biology, Hacettepe University, Turkey. Barlas went on to say, "*The disappearance of pesticide residues at a given location does not mean the end of the problem. Pesticides can be translocated, bioconcentrated or converted into more dangerous chemicals.*" The breakdown fate of malathion was studied by adding malathion to soil samples containing 6 species of soil bacteria known to breakdown the pesticide. After 10 days the samples were analyzed. Malathion content had reduced from 100 down to 25 micrograms, so therefore, the Florida Department of Agriculture spokes people are correct when they say it "breaks down" relatively quickly (although in this case not in a matter of hours). However, even more important, Barlas found that new chemicals were formed in this breakdown process including 14 micrograms of monocarboxylic acid and about 8 micrograms of the highly toxic malaoxon. Barlas then exposed mice to the technical grade malathion and another group to the breakdown products just mentioned. Results showed even the mice exposed to the breakdown products of malathion showed significant decreases in spleen weights and significant changes in liver blood tests which were suggestive of liver damage. Barlas summarized by stating, "*It may be concluded that commercial malathion and it's degradation products together have detrimental effects on mice over a period of 15 weeks of treatment.*"

Department of Biology, Faculty of Science, Hacettepe University, Turkey

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- **Heart Defects in Fish from Low Levels of Malathion**

SOURCE: *Teratology*, 19:51-62, 1979

Levels of malathion in water as low as 5 parts per million were shown to cause heart defects in some types of fish. The fish were studied at Rutgers University in New Jersey. Researchers stated that malathion, if exposed to newly fertilized eggs, caused circulatory defects including - **irregular heartbeat, blood clots, oscillating blood in the heart, pericardial edema and physical defects in the heart formation itself.**

The researchers were concerned not only about the malathion but by the toxic metabolic breakdown products a fish makes once malathion enters the fishes circulation (this happens in humans as well).. To quote the main researcher, Dr. Solomon,

"Another possible problem arising from the use of insecticides is the effect of their different metabolites. A primary metabolite of carbaryl is 1-naphthol, while parathion and malathion become paroxon and malaaxon. The latter two metabolites have been shown to decrease cell numbers, DNA synthesis and protein synthesis in cell cultures of chick pectoral muscle (Wilson '73). Thus, the metabolite may be more detrimental than the parent compound."

Another large concern of Dr. Solomon was the finding that combining other pesticides with malathion greatly increased the fish heart defect rate. For example, at 10 ppm of malathion there was a 38% heart defect rate in fish. The pesticide carbaryl caused a 12% heart defect rate at 1.1 ppm. **However, when these two pesticides were combined at these same levels - there was a 50% heart defect rate in the fish.**

Chem-Tox Comments: Between the malathion air assault and additional citrus grove and residential lawn pesticide runoff - this study provides an excellent biological explanation, for at least part of the reason, why we are observing decreases in some fish populations (fisherman take note).

Rutgers University, Newark, New Jersey

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- **Gill Damage from Malathion Occurs to Popular Sport Fish**

SOURCE: *Bulletin of Environmental Contamination Toxicology* 43:123-130, 1989

This study shows one of the most graphic and startling consequences of low level malathion exposure occurring to Florida Game Fish. Scientists placed bluefish in test tanks that had received small doses of malathion equal to the amounts that have been found to occur in the environment after routine spraying. After 24 hours "mild degenerative changes" were seen in the gills of the fish. After 48 hours, researchers stated "damage was more pronounced" and after 96 hours there was severe damage resulting in a condition known as "bulbing." We feel this study is of such importance that we are making the photographs of the malathion damaged gills available by clicking the link [damaged fish gill photographs](#).

Department of Biological Sciences, Kent State University, Kent, Ohio

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- **Turtles Highly Vulnerable to Birth Defects from Malathion**

SOURCE: *Anatomical Record*, 175:390, 1973

For some reason, turtles develop birth defects from malathion easier than many other forms of wildlife. Of concern to the turtle population in our area, malathion was shown to cause 5 times more birth defects, such as skeletal malformations, than the pesticide captan. Therefore, specifically regarding birth defects in turtles - malathion is far more toxic than some other pesticides. Many turtles throughout rivers in eastern and western Florida are showing tumors over their surface. Scientists believe these are in fact caused by environmental pollutants (such as pesticides) which are running off via storm water run-off into our river systems. If you would like to view a photograph of a Florida turtle covered in tumors please click the link [cancer-turtle-photograph](#).
Department of Anatomy, State University of New York

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- **Frogs in Tadpole Stage Develop Mutations from Malathion**

SOURCE: *Bulletin of Environmental Contamination Toxicology*, 31, 170-176, 1983

Frogs play a very important role in the food chain, consuming vast amounts of insects. However, like turtles, frogs have been shown to be very susceptible to developing mutations from the pesticide malathion. Levels as low as 1 to 5 parts per million were causing malformed tails and heads and unusual swimming patterns in tadpoles. To view photographs of the mutations seen in frogs please click [frog mutation photographs](#).
Department of Zoology, University of Poona, India

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- **Shrimp Lose Ability to Locate Food - Serious Risk to Food Chain**

SOURCE: *Bulletin of Environmental Contamination Toxicology*, 53:127-133, 1994

If you're a shrimp - finding food is not a hit or miss coincidence. Mother nature gives you a sort of radar called "chemo-reception" that allows you to pinpoint where food is located in the murky waters of Tampa Bay. With your chemo-reception radar in working order you move in and grab a bite. However, research from the Department of Biology at the Chinese University of Hong Kong finds a surprising effect from the pesticide malathion. At levels far below that of causing death, the chemical shows it can drastically impair this radar food finding system. For example, in tests of shrimp exposed and not exposed to the low levels of malathion, it was found that the shrimp in the clean malathion-free water were 50% more successful in finding food. Considering that shrimp are one of the more important food sources for many aquatic wildlife - the impact upon the entire food chain is immense. This study certainly gives ammunition for local fisherman to become involved..

Department of Biology, Chinese University of Hong Kong

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- **Lizards Develop Liver & Kidney Damage at Very Low Levels**

SOURCE: *Bulletin of Environmental Contamination Toxicology*, 55:730-737, 1995

Perhaps the most sensitive of all forms of wildlife to exposure to malathion are the "dwarf lizards." These reptiles perform a service consuming significant amounts of other small insects. Lizards were exposed to malathion at levels of only 1 milligram of malathion per kilogram body weight (mg/kg) - 2 mg/kg - and 3 mg/kg. Each dosage caused significant damage to the animal's livers, kidneys, and small intestines. Note, these exposure levels are extremely small as the amount needed to cause death in most mammals is well above 500 mg/kg. The researchers concluded by stating "*Uncontrolled use of malathion or related compounds will certainly endanger not only the lives of lizards but also affect food chain and ecological balance of nature negatively.*"

Department of Biology, Faculty of Science, Osmangazi University, Turkey

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- **"Half-Truths" by Officials Hide Important Malathion Facts**

There are two types of malathion that can be used in medical health effects research. One is the "**purified form**" (which is approximately 99.9% malathion) and the other is called "**technical grade**" (which is approximately 96.5% malathion) and is the type being sprayed over Tampa and Lakeland. The technical grade is approximately 10 times more potent in causing death to laboratory animals. The type of malathion being sprayed over Tampa is not always the type being referred to in health studies by malathion proponents. Compounding the problem, the malathion we are being sprayed with has been "baking" in the hot summer which research finds converts it into an even more toxic compound.

Division of Toxicology, University of California

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- **Unknown Risks of Malathion**

Perhaps what is more disturbing about malathion (and other chemicals as well) is not what is actually known about the health effects from the chemical, but rather, what is not known. It is important for the public to understand that although chemical companies spend millions of dollars and several years testing their chemicals, the testing protocols they use are dangerously incomplete.

Let's correct several common misunderstandings. First, the EPA does not test malathion. EPA only sets up the guidelines for the testing. The chemical companies then conduct their own tests and submit the results to EPA for review (*foxes guarding the hen house?*). In fact, there have been occurrences in the past, such as with Industrial Bio-Test Labs, in which falsified and fraudulent data was submitted to EPA. (Remember, there is extreme financial gain to be made from registration of a chemical).

The primary tests EPA required for malathion include:

- * **LD-50 (the amount needed to kill 50% of the test animals)**
- * **Tests for major organ damage**
- * **Tests for delayed neurotoxicity in a hen after a single dose**
- * **Skin hypersensitivity tests**
- * **Physical birth defects**
- * **Cancer Risk**

These tests, however, are seriously inadequate. For example, EPA has been stating for years that they would require more detailed tests for chemical effects upon the immune and nervous system. However, to date, these requirements have not been implemented and probably will not be considering the large amounts of "donations" currently being given by pesticide manufacturers to members of Congress.

Below are examples of effects that could very well be occurring from malathion and other pesticides - but which there is just no information. In other words, this provides an excellent example of chemical Russian Roulette with the American people. Perhaps the biggest unknown risk from malathion is its potential to increase risk of contracting bacteria or viral infections such as encephalitis.

This paradoxical situation arises since exposure to malathion can weaken a person's immune system. Therefore, people whose immune integrity was marginally above that needed to protect from encephalitis (remember, encephalitis only appears in the elderly, very young and sick who already have a weak immune system) could now be placed into a weakened enough state that the encephalitis virus could grow more quickly in the body.

Other effects of malathion for which there is no research, but seriously needed include its ability to cause -

- ? **Learning Disabilities in math, reading, etc.**
- ? **Attention Deficit Disorder (A.D.D.)**
- ? **Hyperactivity**
- ? **Mild mental retardation?**
- ? **Lower IQ**
- ? **Language or speech delays** (found highly vulnerable to low level chemical exposure)
- ? **Short term memory damage**
- ? **Tests of all personality facets including -**
- ? **Aggression**
- ? **Irritability**
- ? **Depression**
- ? **Increased emotionality**
- ? **Decreased head circumference in offspring** (*suggesting reduced brain cell growth*)
- ? **Damage to the blood brain barrier** (which functions to block toxic chemicals from entering the brain and has been found weaker in psychiatric and Alzheimer's patients)
- ? **Increase infertility or miscarriage**
- ? **Alter hormones involved in defining sexuality** (as occurs with pesticide chlordane)
- ? **Lower sperm count** (linked to increases in genetic flaws in sperm DNA)
- ? **Slower sperm movement**
- ? **Autoimmunity** - renegade immune cells which attack the body by mistake causing rheumatoid arthritis and over 40 other diseases.
- ? **Lower the number of immune system cells** - thereby increasing risk of infection
- ? **Slow the movement of immune system cells** - thereby increasing risk of infection
- ? **Weaken ability of immune system cells to locate bacteria, viruses, etc.** - thereby increasing risk of infection
- ? **Weaken the ability of immune system cells to produce interferon, interleukins and other natural compounds essential to stimulate the body's infection fighting capability** - thereby increasing risk of infection
- ? **Weaken the ability of immune system cells (such as natural killer cells) to locate cancer cells and efficiently remove them**
- ? **Increase risk of asthma** - as has been found to occur with other pesticides
- ? **Increase risk of allergies**
- ? **Reduce the efficiency of our DNA repair process** - thereby accelerating aging
- ? **Complete all of these tests on second generation offspring to look for true long term subtle genetic effects**

Each of the above "unknown effects" are listed here for a reason. The reason being that all of the above

effects have been found to occur after exposure to other pesticides and chemicals when tested by various University Research Agencies. Of great concern, the amount of chemical exposure required to cause the above effects is many times lower than the amount required to cause cancer, birth defects, organ damage or other major effects. (*This may be one of several reasons the tests are not added to the protocols of chemical testing requirements*).

If you would like to review our website that addresses the potential for extremely low levels of chemicals to damage the developing unborn child - please visit our website developed from a University of Florida Graduate Research Project on Environmental Causes of Learning and Behavior Disorders.

[Malathion Research Index](#)
(Top of Page)

[Other Pesticide](#)
[Health Effects Research](#)

NEW [Alternatives to Malathion for Mosquito Control](#)

Research shows that the natural pesticide "pyrethrum" has characteristics which make it especially effective for eliminating biting mosquitoes without harming the environment or public health.

Section 11

Hazardous Chemical Warning:

I have compiled further information relating to occupational exposure of harmful chemicals known as poisons, toxins and or dioxins. The listed references relate to exposures of herbicides, cleaning solvents, degreasers, tar removers and refrigerants. Exposure was typically in the form of inhalation or direct skin contact. These chemicals supplied by all branches of the military were used in the following fields: teletype maintenance, auto mechanics, and maintenance of weapons, air craft mechanics, heavy equipment maintenance, electronics, nuclear weapons and all other fields which required the cleaning of metal parts. Some were also used at the dry cleaning facilities located on the military facilities and for weed control. The Government has known for years of the harmful effects and serious if not fatal consequences of these chemicals. Not only has your health been placed at risk but also your children and grand children.

Based upon current information, the following chemicals were supplied by all branches of the military. The chemicals listed were more common than most but there are a host of others. These are considered to be organic compounds and or inorganic compounds, chlorinated hydrocarbons, chlorofluoro carbons, hydrochlorofluoro carbons, halogenated solvents, some are considered volatile and all have harmful side effects. In addition, there is a long list of other chemical groups known to be utilized with the military branches.

Occupational Exposure to Hydrocarbons (PAH'S), and Arsenic:

- Benzene
- Carbon Tetrachloride- CCl_4
- Chlorofluorocarbon- CFCs
- Dichlorodifluoromethane
- Dichloromethane or (methane, methylenechloride),
- Halon
- Heavy metals – to include lead
- Hexachloroethane
- Hydrbromofluorocarbon- HBFCs
- Jet Fuels, Exhausts and Combustion / containing Arsenic
- Methyl Chloroform- CH_3CCl_3
- Methyl Bromide- CH_3Br
- Methylene Chloride
- Methyl Ethyl Ketone
- Perchloroethylene, which emits dioxins, it is also known as (Tetrachloroethylene)
- Tetrachloroethylene-(Perchloroethylene)
- Tetrachloroethylene-(Dichloromethane)-(HCs=Methane=Arsenic=Agent Blue)
- Trichloroethylene-TCE
- Trichloromethane-also known as chloroform
- Trichlorofluoromethane-ethane
- Trichlorofluoroethane (HCs=Methane=Arsenic=Agent Blue)
- Toluene
- Xylene
- Vinyl Chloride

- Kerosene and Diesel Fuel-(used to disperse herbicides- are known Hydrocarbon's and contain arsenic)

Exposure to Herbicides, Arsenic and Hydrocarbons:

Exposure occurred during service in Korea, South Vietnam and Thailand, during flights over Laos, Cambodia, and a multitude of other locations known to have these same contaminants.

- Arsenic-components of herbicides used during war time
- Hydrocarbon's (PAH's) –component of herbicides used during war time
- Agent Blue-(Arsenic)-(Methane)-(Ethane)
- Exposure to Herbicides and Pesticides while in country
- Exposure to Herbicides and Pesticides while serving outside of Vietnam
- Heavy metals found in herbicides and occupational chemicals
- DDT- LINDANE- DEET- Mosquito repellent
(also found in herbicides and occupational chemicals)

Officials would want you to believe that Carbon Tetrachloride was banned. This is simply not true. Carbon Tet was banned in the 60's for **certain uses**. At this time the military began to slow its use down. In 1985 it was banned as a fumigant. Documents will reflect that as of December 1999 the military was still using this deadly chemical as a cleaning solvent. A bill was submitted to the 107th Congress called: **Veterans Carbon Tetrachloride Benefits Act**. Bill number H.R. 514. I have listed the web site for your review. This bill has not passed. It has now been referred to the **Senate Sub Committee** where it now sits. The bill will die if we don't take action. After you review the contents, officials highly recommend you write you **Congressmen and demand that action be taken to see this bill through.**

I understand that many of the derivatives found in the above listed chemicals, were derivatives used in the composition of Agent Orange. Veterans who suffered occupational exposures can develop a claim based on Reasonable Doubt. This information can be found in rulings put out by the Department Of Veterans Affairs.

I am not an expert, doctor or chemist. I am just an informed Daughter of a Fallen Vietnam Veteran. In memory of my dad, I hope is to help inform others of possible occupational exposures they may have been effect by. My dad was a 20 year veteran and worked with some of the mentioned chemicals for 15 years. He also suffered herbicide exposures such as Agent Orange while service in Vietnam. We believe these exposures caused his illnesses and ultimate demise. Please accept this as my disclaimer as I leave it to you to interpret the documents written by the professionals.

I began some of my research in the following areas:

Search google.com for: Military weapons cleaning solvent, military fire arms cleaning solvent, military use of chlorinated solvents, military fire arms and chlorinated solvents, chlorinated hydrocarbon solvents, halogenated solvent, hydrocarbon based solvents, chlorine-dioxin, organic compounds and organic halogen compounds.

There is an enormous amount of information available. I have chosen a few for your review. Many of these sites mention all that is listed above.

A final note: Your 201 files may indicate the chemicals you were required to use. It has also been made clear that VA Regional Offices have manuals that provide their representatives a complete description which outlines occupational requirements and a chemical reference for each particular job.

Please see attached references to aid in your research relating you your in service exposures. Thank you for your time.

Taura King

References:

Get familiar with the Naval Virtual Medicine web site. Search occupational chemicals.

Military weapons cleaning solvent carbon tetrachloride and more:

Report to Congress-Ozone-Depleting: search google.com (This document is under review by Congress. They still haven't passed this. It is a very long document but well worth peaking at. NOTE; the chemicals still in use. See paragraph on; Technical Plan V11 General and Precision Cleaning) Wed address not listed as it appears to be incorrect.
www.on.ec.gc.ca/pollution/fpd/sheets/e-pp-12pdf.

(Pollution Prevention Fact Sheet #12)

Military weapons cleaning solvent trichloroethane

www.dtic.mil/ndia/pollution/hagen.pdf

<http://es.epa.gov/studies/cs588.html>

Military weapons cleaning solvent perchloroethylene

www.inlandtech.com/products.htm

(Solvent Alternatives and Equipment)

www.afcpo.com/archives/Conf_proceed/2000Briefings/ThurPDF/CleaningChemistries.pdf

Chlorinated Solvents:

www.ncs.net/~hutter/tee/chlorina.html

www.es.epa.gov/prograhm/epaorgs/ord/alt-solv.html

(ATTENTION :) a book titled "toxicology" Effects of solvents and vapors by Larry S Andrews and Roberts Snyder. This book will explain why some of you have had **positive TB detection**.

Carbon Tetrachloride, case # 56-23-5, Formula CC14

<http://www.theorator.com/bills107th/hr514.html>

(ATTENTION)

This site lists the contents of the Carbon Tetrachloride which has not passed. It is in danger of dying if we don't act now. Please contact your congressmen and demand that action be taken to get this bill passed.

<http://www.jtbaker.com/msds/c0979.htm>

http://www.scorecard.org/chemical-profiles/uses.tcl?edf_substance_id=56%2d23%2d5

<http://www.britannica.com/seo/c/carbon-tetrachloride/>

<http://eco-usa.net/toxics/cc14.html>

<http://www.crossrosds.nsc.org/ChemicalTemplate.cfm?id=89&chempath=chemicals>

Trichloroethylene, case # 79-01-6, Formula C2 HCl3

<http://www.britannica.com/ed/article?eu=75265&tocid=0>

http://www.scorecard.org/chemical-profiles/summary.tcl?edf_substance_id=79-01-6+

<http://www.pactox.com/trichloroethylene.htm>

Note ; this next document has no web site address pay close attention to the last page as it refers to military use. Search, Trichloroethylene, University of California – MSD System. This is written by J. T. Baker Inc. Titled Material Safety Data sheet. Dated 1996. See yahoo.com, msn.com or google.com

Trichlorofluoromethane: case #75-69-4, formula CCl₃F

[Http://www.britannica.com/eb/article?eu=84424&tocid=0](http://www.britannica.com/eb/article?eu=84424&tocid=0)

http://www.scorecard.org/chemical-profiles/summary.tcl?edf_substance_id=+75-69-4

http://ntp-db.niehs.nih.gov/NTP_Reports/NTP_Chem_H&S/NTP_Chem7/Radian75-69-4.txt

Trichloromethane: (chloroform)

<http://www.britannica.com/eb/article?eu=84425&tocid=0>

Agent Orange: Dioxin

<http://www.donane.edu/crete/academic/soial/history/his314/Agent%20Orange/dioxin.htm>

http://whyfiles.org/025chem_weap/gulf_war.html

<http://www.chemsoc.org/exemplarchem/entries/jhardy/glossary.htm>

<http://umbbd.ahc.umn.edu:8007/umbbd/servlet/pagrservlet?type=c&compID=c0361>

<http://umbbd.ahc.umn.edu:8007/umbbd/sevlet/pageservlet?type=c&compID=c0288>

<http://ntp-sever.niehs.nih.gov/htdocs/LT-studies/tr201.html>

Health Effects:

<http://www.scorecard.org/health-effects/>

(This site has all that you need, use Dioxin when referring to Agent Orange or the individual chemical names you are researching.)

Map of Vietnam:

<http://www.geocities.com/Pentagon/Quarters/7648/agentorange.html>

Note; the attached map showing military sites in Vietnam was supplied by Wesley Turner of the United States Marine Corp.

Petition Concerning Your Benefits: (Responses Needed ASAP)

<http://petitionpetition.com>

Click on: View New Petitions, scroll down to, Retirement Disability Offset. This also allows for comments you might have concerning this subject matter.

Other References:

Legal Services

NVLSP Shannon Guignon 202-265-8305 ext. 123

Attorney At Law Mr. Smoger of Oakland Ca
Appeal regarding the 1984 Class Action Suit
<http://laws.lp.findlaw.com/2nd/007455.html>

Agent Orange Debrief web board

<http://www.goiv.com/ao/default.html>
<http://www.goiv.com/ao/board/>

Air Force Records

U.S.A.F. reports, records, documentation, history and resources.
(interesting site)
<http://www.defenselink.mil/privacy/notices/usaf/>

Dioxin Contamination in other Locations

Monsanto Hid Decades of Pollution.
<http://www.washingtonpost.com/wp-dyn/articles/A46648-2001Dec31.html>
In Dirt, Water and Hogs, Town Got It's Fill of PCB's
<http://www.washingtonpost.com/wp-dyn/articles/A46744-2001Dec31.html>

Other chemicals or experiments affecting Vietnam Veterans

BZ Bombs Away
<http://www.levity.com/aciddreams/samples/bz.html>
Operation Chaos
<http://www.maebrussell.com/Mae's%20articles/Operation%20Chaos.html>
(see section about the battlefield)
Operation Chaos
<http://serendipity.magnet.ch/cia/1von.html>

Gulf War Syndrome Self Help Guide

http://www.gulfweb.org/doc_show.cfm?ID=459

Laos

Loas: The Secret War
<http://www.angelfire.com/in/Laos/>

Panama

Southeast Asia- Toxic Legacy of the Vietnam War
<http://www.atimes.com/se-asia/AE21Ae03.html>
New Revelations on Base Contamination
<http://www.forusa.org/panama/37.htm>
This aslo mentions The Philippines

Ozone Depleting Chemical Elimination Program

<http://www.aapposo.com/odc.html>

Chemical Exposures

Carbon tetrachloride

http://www.scorecard.org/chemical-profiles/text-search.tcl?query_string=carbon+tetrachloride

Trichloroethylene

http://www.scorecard.org/chemical-profiles/text-search.tcl?query_string=trichloroethylene

Halon

http://www.scorecard.org/chemical-profiles/text-search.tcl?query_string=halon

Organophosphates

http://www.scorecard.org/chemical-profiles/text-search.tcl?query_string=organophosphates

Morpholine

http://www.scorecard.org/chemical-profiles/summary.tcl?edf_substance_id=+110-91-8

Biological Exposures

Agro - Terrorism

<http://cns.miiis.edu/research/cbw/agchron.htm>

The US Biological Warfare in Korea

<http://www.kimsoft.com/2000/mbc.htm>

Germ Warfare The Hall of Shame

<http://home.earthlink.net/~bkonop/GermIncidents2.html>

Vaccines and related illnesses

National Health Alert

<http://members.aol.com/bear317/hep-c.htm>

Malaria

<http://www.crazvdogtravel.com/malaria.html>

Section 12

The 1994 Rockefeller Report

Examining Biological Experimentation on U.S. Military

Table of Contents

Foreward

I. Introduction

II. Background

- A. Codes, declarations, and laws governing human experimentation
- B. Mustard gas and lewisite
- C. Seventh-Day Adventists
- D. Dugway Proving Ground
- E. Radiation exposure
- F. Hallucinogens
- G. Investigational drugs

III. Findings and conclusions

- A. For at least 50 years, DOD has intentionally exposed military personnel to potentially dangerous substances, often in secret
- B. DOD has repeatedly failed to comply with required ethical standards when using human subjects in military research during war or threat of war
- C. DOD incorrectly claims that since their goal was treatment, the use of investigational drugs in the Persian Gulf War was not research
- D. DOD used investigational drugs in the Persian Gulf War in ways that were not effective
- E. DOD did not know whether pyridostigmine bromide would be safe for use by U.S. troops in the Persian Gulf War
- F. When U.S. troops were sent to the Persian Gulf in 1994, DOD still did not have proof that pyridostigmine bromide was safe for use as an antidote enhancer
- G. Pyridostigmine may be more dangerous in combination with pesticides and other exposures
- H. The safety of the botulism vaccine was not established prior to the Persian Gulf War
- I. Records of anthrax vaccinations are not suitable to evaluate safety
- J. Army regulations exempt informed consent for volunteers in some types of military research
- K. DOD and DVA have repeatedly failed to provide information and medical followup to those who participate in military research or are ordered to take investigational drugs
- L. The Federal Government has failed to support scientific studies that provide information about

the reproductive problems experienced by veterans who were intentionally exposed to potentially dangerous substances

- o M. The Federal Government has failed to support scientific studies that provide timely information for compensation decisions regarding military personnel who were harmed by various exposures
- o N. Participation in military research is rarely included in military medical records, making it impossible to support a veteran's claim for service-connected disabilities from military research
- o O. DOD has demonstrated a pattern of misrepresenting the danger of various military exposures that continues today

IV. Recommendations

- A. Congress should deny the DOD request for a blanket waiver to use investigational drugs in case of war or threat of war
- B. FDA should reject any applications from DOD that do not include data on women, and long-term followup data
- C. Congress should authorize a centralized database for all federally funded experiments that utilize human subjects
- D. Congress should mandate all Federal agencies to declassify most documents on research involving human subjects
- E. Congress should reestablish a National Commission for the Protection of Human Subjects
- F. VA and DOD should implement regular site visits to review Institutional Review Boards
- G. The Feres Doctrine should not be applied for military personnel who are harmed by inappropriate human experimentation when informed consent has not been given

Appendix — Survey of 150 Persian Gulf War Veterans

NOTES

TOC

Forward

103d Congress, 2d Session - COMMITTEE PRINT - S. Prt. 103-97

IS MILITARY RESEARCH HAZARDOUS TO VETERANS' HEALTH? LESSONS SPANNING HALF A CENTURY

A STAFF REPORT PREPARED FOR THE
COMMITTEE ON VETERANS' AFFAIRS

UNITED STATES SENATE
DECEMBER 8, 1994

JOHN D. ROCKEFELLER IV, West Virginia, Chairman

FRANK H. MURKOWSKI,

DENNIS DeCONCINI,	Alaska
Arizona	STROM THURMOND,
GEORGE J. MITCHELL,	South Carolina
Maine	ALAN K. SIMPSON,
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U.S. Senate,
 Committee on Veterans' Affairs,
 Washington, DC, December 8, 1994

During the last few years, the public has become aware of several examples where U.S. Government researchers intentionally exposed Americans to potentially dangerous substances without their knowledge or consent. The Senate Committee on Veterans' Affairs, which I have been privileged to chair from 1993-94, has conducted a comprehensive analysis of the extent to which veterans participated in such research while they were serving in the U.S. military. This resulted in two hearings, on May 6, 1994, and August 5, 1994.

This report, written by the majority staff of the Committee, is the result of that comprehensive investigation, and is intended to provide information for future deliberations by the Congress. The findings and conclusions contained in this report are those of the majority staff and do not necessarily reflect the views of the members of the Committee on Veterans' Affairs.

This report would not have been possible without the dedication and expertise of Dr. Patricia Olson, who, as a Congressional Science Fellow, worked tirelessly on this investigation and report, and the keen intelligence, energy, and commitment of Dr. Diana Zuckerman, who directed this effort.

John D. Rockefeller IV, Chairman

TOC

Introduction

During the last 50 years, hundreds of thousands of military personnel have been involved in human experimentation and other intentional exposures conducted by the Department of Defense (DOD), often without a servicemember's knowledge or consent. In some cases, soldiers who consented to serve as human subjects found themselves participating in experiments quite different from those described at the time they volunteered. For example, thousands of World War II veterans who originally volunteered to