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Contract: VA-101-12-C-0006

Discussion Points Concerning the Continuing Reports of Allegations of Agent Orange on Okinawa

Compensation Service

Department of Veterans Affairs

810 Vermont Ave., NW

Washington, DC 20420

November 2013

Agent Orange Briefs:
Special Topics

 Brief No. 3

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November 30, 2013
Mr. Michael D. Pharr
Contract Officer's Representative
Compensation Service
Department of Veterans Affairs
810 Vermont Ave., NW
Washington, DC 20420

Dear Mr. Pharr,

Please find attached to this letter Agent Orange Brief No. 3 entitled **“DISCUSSION POINTS CONCERNING THE CONTINUING REPORTS OF ALLEGATIONS OF AGENT ORANGE ON OKINAWA.”** This Brief is the third of many Briefs that will be prepared upon request by Compensation Services to address special topics that are germane to issues supporting the *Agent Orange Investigative Report Series*. These Briefs are prepared in fulfillment of Contract VA-101-12-C-0006, *Development of an Archival Directory of Agent Orange Documents*.

Sincerely,

Alvin L. Young, PhD
Professor of Environmental Toxicology
Colonel, USAF (Retired)

DISCLAIMER

The conclusions reached in this report are based upon a comprehensive review of the historical records maintained in the publicly available files of the National Archives and Record Administration, and other archival repositories. However, the conclusions reached do not necessarily represent those of the Department of Veterans Affairs or any other Department or Agency of the United States Government.

This “Discussion Point Brief” is part of the ***Agent Orange Investigative Report Series***, and should be considered as an amendable or living document. If additional authenticated documents or records are found that address the topic of this report, a re-evaluation of the conclusions may be necessary.

DISCUSSION POINTS CONCERNING THE CONTINUING REPORTS OF ALLEGATIONS OF AGENT ORANGE ON OKINAWA

BACKGROUND

An extensive report was prepared for Compensation Service, Department of Veterans Affairs in October 2012. That report, **Investigations into the Allegations of Agent Orange on Okinawa**, documented seven events that were reported by US veterans stationed in Okinawa during the Vietnam Era where they alleged exposure to Agent Orange [1]. Historical records were found concerning each event. However, there was no supporting document or other evidence that Agent Orange or any other tactical herbicide was involved in any of these incidents. The conclusion of the report was that there was no evidence that Agent Orange had ever been shipped to or through, unloaded at, used, or buried on Okinawa. Since the report was published there have been additional media and journal allegations published including the following:

- 4 June 2013: *As evidence of Agent Orange in Okinawa stacks up, U.S. sticks with blanket denial, no bases visited, no vets interviewed for Pentagon probe into dioxin in Okinawa* [2];
- 7 August 2013: *Okinawa dump site may be proof of Agent Orange: Experts* [3];
- 26 August 2013: *Denials of defoliant at former U.S. base site in Okinawa fly in the face of science* [4];
- 23 September 2013: *The Spectre of U.S. Military Defoliants/Herbicides Buried in Okinawa* [5];
- 23 September 2013: *Okinawa Dumpsite Offers Proof of Agent Orange: Experts Say* [6]; and,
- 11 November 2013: *Okinawa: the junk heap of the Pacific* [7].

Four of the articles were published in *The Japan Times* [2, 3, 4, 7], while two articles were published in *The Asia-Pacific Journal* [5, 6].

DISCUSSION OF NEW ALLEGATIONS

Three new allegations have been reported:

Allegation Number 1: A US Army Chemical Corps Officer alleged that in 1969 Agent Orange was processed through the Port of Naha and trucked to the Hamby Open Storage Area. The Officer alleged that there were 10,000 barrels and that most were leaking and required re-drumming into new 55-gallon drums. The report did not specify the final destination of the 10,000 drums, however it is alleged that many were buried on Okinawa [2, 7].

Allegation Number 2: A US veteran and Okinawa civilian recalled how surplus stocks of Agent Orange were sold on the black market to local farmers who valued its weed-killing power. The risks of these unregulated sales of hazardous substances to those lacking the necessary safety training were noted [7].

Allegation Number 3: In June 2013, construction workers unearthed more than 20 rusty barrels from land beneath a soccer field that was on property previously part of Kadena Air Base but was returned to civilian use in 1987. The 30-gallon barrels with Dow Chemical Company labeling and the presence in the soil of trace levels of 2,4,5-T and associated dioxin were alleged to be proof of military defoliants in Japan [3, 4, 5, 6, 7]. Confirmation of proof also included an August 1966 letter prepared by Headquarters Middletown Air Material Area, Air Force Logistic Command, noting the movement of herbicide from The Dow Chemical Company in Midland, Michigan of 1866 drums (30-gallon drums ®) for shipment to Saigon, Vietnam [8].

ASSESSMENT OF THE ALLEGATIONS

Allegation Number 1 continues the allegation addressed in the October 2012 Report but more focused on an alleged retrograde project that was implemented in Vietnam resulting in ~ 10,000 “leaking” drums of Agent Orange being sent in 1969 from Vietnam to the Port at Naha, and subsequently trucked to the open storage area at Hamby Field for re-drumming. ***This allegation is not valid for the following reasons:***

- The termination of the use of Agent Orange in Vietnam occurred in April 1970 [9];

- In a September 1971 Memorandum from the Secretary of Defense , elements of the 7th Air Force in Vietnam initiated Project PACER IVY requiring that all remaining inventories of Agent Orange be assembled at the Air Bases at Da Nang, Bien Hoa, and Tuy Hoa, and that immediate re-drumming of the inventory commence [9];
- In March 1972, approximately 25,220 drums of Agent Orange were shipped from Vietnam directly to Johnston Island, Central Pacific Ocean [9]; and,
- No documentation was found to direct the 7th Air Force or Air Force Logistics Command to send Agent Orange from Vietnam to Okinawa.

Allegation Number 2 alleges that surplus drums of Agent Orange were available on the black market to be sold to Japanese farmers. ***This allegation is not valid for the following reasons:***

- There have been no records/documents found in the National Archives that support the allegation that Agent Orange was sent, stored, or used in Okinawa;
- The difficulty in handling, mixing, and ground spraying of Agent Orange would have presented many problems for local farmers. One 55-gallon drum of Agent Orange weighed 538 lbs (244 kg), and contained enough herbicide when diluted in diesel fuel (not water soluble) to treat more than 230 hectares of rice crop, but the formulation of the highly volatile n-butyl esters would have been a major problem since the drift and volatility had the potential to kill all surrounding vegetable and horticultural crops; and,
- Since Agent Orange was an unlabeled herbicide and not approved for commercial use, the liability issues and regulatory actions against such use, would have deterred any use by local Japanese farmers.

Allegation Number 3 began in June 2013 when the Okinawa City Education Board initiated a project to expand a soccer field on a site that had been previously part of Kadena Air Base and was returned to the local community in August 1987 [3]. Twenty-two 30-gallon (114-liter) drums were unearthed at the site. The drums were empty but carried an oil-like odor, and were marked “THE DOW CHEMICAL COMPANY, Midland, Michigan [3]. The Okinawa Defense Bureau concluded that the drums were most likely the US military’s abandoned property [3]. An analysis of chemical residues associated with the drums contained traces of

2,4,5-T and 2,3,7,8-TCDD [6]. An Air Force Logistics Command letter dated 31 August 1966 documented that The Dow Chemical Company had shipped 1,866 30-gallon drums of herbicide destined for Saigon [8].



Photograph of one of twenty-two 30-gallon (114-liter) drums unearthed near Okinawa City from land once part of Kadena Air Base, subsequently was used as a soccer field for more than a decade (Source: *from Ryukyu Shimpō*, front page, June 18, 2013, Okinawa)

A careful assessment was made of the media reports, analytical results, and the Air Force Logistical Command documentation. **The allegation that the 30-gallon drums recovered in Okinawa contained Agent Orange is not valid for the following reasons:**

- *The source of the 30-gallon drums.* An examination was conducted of procurement records from The Dow Chemical Company and the Air Force Logistics Command. The first major large volume shipments of Agent Orange from Dow Chemical Company to Vietnam was in October 1966 (the Air Force Logistics Command Letter was dated 31 August 1966 [5]. However, the records on the first shipments of Agent White did occur in August 1966. The Dow Chemical Company shipped 1,866 drums of herbicide in 30-gallon drums to the Port of Saigon which were included with

a large shipment of Agent White in 55-gallon drums. This large shipment was the first shipment of Agent White to go to Vietnam. The contract specified 6,270 55-gallon drums of herbicide, but Dow had available only 5,250 55-gallon drums. To make up the short fall, Dow shipped 1,866 30-gallon drums from their inventory of Tordon 101® to make up the difference that would have been contained in 1,020 55-gallon drums. The following month, Tordon 101® became the tactical herbicide, Agent White [9]. From the available records reviewed these drums were the only 30-gallon drums of herbicide sent to Vietnam. None of this inventory could be tracked to Okinawa;

- Agent White was the triisopropanol amine salt of picloram and 2,4-D [9]. The drums shown in photographs were not Dow's Tordon 101® because they would have had a different label configuration, as required by law, and no picloram or 2,4-D residues were reported;
- The Dow Company did ship 30-gallon drums of solvents under Air Force Logistics Command contracts to Japan, and it was likely that those solvent drums were those unearthed in Okinawa;
- It was common practice at DoD installations to bury waste solvents, greases, and incineration products from the hospital and other sources [10]. Such incineration products likely contained 2,3,7,8-TCDD as a consequence of burning municipal wastes containing chlorinated materials [11]; and,
- The herbicide 2,4,5-T had a very short persistence time in soil (weeks). It rapidly hydrolyzed in the presence of moisture and readily degraded by microorganism, both aerobic and anaerobic [12]. In a similar project of analyzing for herbicides and dioxins in a waste site in Korea in 2011, the initial findings of trace 2,4,5-T and TCDD were not associated with herbicides, and in fact were artifacts in the analyses, or a product of incineration [11, 13]. A study by a chemist at Texas A&M who had examined soil samples collected from agricultural areas in Texas in the early 1930s, many years before commercial 2,4,5-T, found traces of 2,4,5-T but upon exhaustive analyses via GC-MS found an artifact that chemically matched the spectra for 2,4,5-T, but in fact was not [13].

CONCLUSION

The conclusion continues to be that Agent Orange was never shipped to or through, unloaded at, used, sold, or buried on Okinawa.

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13. Personal Communication with Dr. Rodney W. Bovey, Research Leader, Agricultural Research Service, United States Department of Agriculture, and Professor of Range Science, Department of Range Science, Texas A&M University, College Station, Texas

BRIEF BIOGRAPHY OF THE AUTHORS

For more than 40 years, Dr. Alvin L. Young has been involved in issues surrounding the use of Herbicide Orange and other tactical herbicides in Vietnam. He completed his PhD in Herbicide Physiology and Environmental Toxicology at Kansas State University in 1968. In his 21 years with the USAF (obtaining the rank of Colonel), he was involved with the testing and evaluation of the equipment used in Operation RANCH HAND, Vietnam, and with the environmental and human health studies with the USAF School of Aerospace Medicine and the Department of Veterans Affairs. He served as a Science Advisor on environmental issues including Agent Orange with the President's Office of Science and Technology Policy. He was the Director of the Department of Energy's Center for Risk Excellence. He was a Visiting Professor at the University of Oklahoma, 2001-2007, and has served as the Senior Consultant on Herbicide Orange for the Office of the Deputy Under Secretary of Defense (Installations and Environment). He has more than 300 publications in the scientific literature, including five books on issues related to Herbicide Orange and/or dioxins and furans. From 2000 to 2012, He was the Editor of the international journal *Environmental Science and Pollution Research*.

For the past ten years, Kristian L. Young has been the Principal Researcher for A.L. Young Consulting. He received his Bachelor of Arts in Political Science from DePaul University, Chicago (Magna Cum Laude, Phi Kappa Phi, and Pi Sigma Alpha). He received the Master of Arts in International Relations in 2010 through Webster University's Global Program having studied in Europe and China. He has provided support to the company in areas of public policy, technical issues, archival research, and the coordination of national and international projects.