

To Dr. Pettegill

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February 28 1994

Representative George Miller
Chairman
Committee on Natural Resources
U.S. House of Representatives
Washington, D.C. 20515

Dear Mr. Miller:

I appreciated the opportunity you gave me to appear at the hearing you conducted on the legacy of the nuclear testing program in the Marshall Islands. As I testified, it is significant that in the forty years that have passed since that tragic event occurred, this was the first time I have been asked to record my knowledge of the matter, despite the central role played by the laboratory I directed. Many of the unusual circumstances surrounding the BRAVO fallout, as known to me, are described in my autobiography, *An Environmental Odyssey*, to which several references were made during the hearing.

I found myself in disagreement with much of the anecdotal information presented by others concerning the allegation that heavy fallout must have occurred far beyond the islands that have traditionally believed to have been affected. As I testified, the AEC Health and Safety Laboratory (HASL), of which I was then director, undertook extensive aerial surveys of the islands of the Central and Western Pacific, and our findings are a matter of record. My own participation in those surveys was limited to the D+1 day over-flights of the islands downwind of MIKE, and the D+6 day over-flights of the islands north of Guam in the far Western Pacific. Other associates, the late Dr. John Harley, Mr. Mel Cassidy, and Mr. Alfred Breslin made similar flights over islands.

A copy of my field notes from October 30 1952 until I left the islands on November 7 is attached to this letter. Note that I surveyed 20 islands from a height

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of 200 feet. The ground level dose rates were all found to be less than 0.3 mr/hr on BRAVO + 1 Day. Of the 13 islands surveyed by Mr. Cassidy on the same day, the highest reading was 0.5 mr/hr. Breslin reported negative findings. I do not have any recollection of the manner in which his flight was vectored, but that should be a matter of record.

Somewhere there must be a compilation of the data obtained on these over flights for subsequent tests. Thus there need be speculation as to the extent of the fallout on the Islands of the Pacific, starting with the MIKE test on November 1 1952.

Note that, early on my flight of November 2, I found no fallout on Ujelang at 0845 local time. I don't remember the meaning of "passed word to LST", but it can only mean that it was the boat on which the Ujelang inhabitants had been evacuated, and that I was asked to report to the LST that conditions were safe for their return. This is in contrast to the testimony of The Honorable Ismael John that everything was covered by fine dust, and that the inhabitants suffered from radiation effects. Incidentally, I am quite certain that HASL had located monitoring equipment on Ujelang, which would have required that the island be visited every few days for servicing purposes.

As I said at the hearing, it is unlikely that any undisclosed information exists that will affect our understanding of the extent of the BRAVO fallout. However, after forty years, such documentation that does exist may be hard to retrieve except by a lot of searching at HASL (now EML), CINCPAC headquarters, and the files of the former AEC Division of Biology and Medicine to which HASL then reported.

There are a considerable number of unanswered questions concerning the events prior to and subsequent to BRAVO. I think these questions should be answered for historical purposes, and I have been greatly impressed with the diligence with which Ms. Linda Chase has attempted to locate important relevant documents. If I can be of any assistance in this regard I hope you will call on me.

Cordially

cc: Dr. Steven L. Simon
Dr. Harry J. Pettengill ✓
Ms. Linda Chase

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4. Acetylcholine (ACh) (try 2)

common offering gifts of Druggies,
shell, cocoanuts, breadfruit,
and dried fish all contained
in woven palm-leaf baskets.
Nevertheless, as of trading and
self-sufficing of the children
with no outside help, sickness
and people but ordinary depopula-
tions. Native long climbing coconuts
trees. Many ducks with
about painted a red. They were able
to feed with prying over cage and
clean water of lagoon. Birds
except fish and nothing else! W

Mar 3
Deborah and I 0730 mi. DBH from
Eligible Air Weather very close to them -
marked Birch, wood and Cypress
to make slight relief - small
located some island 13.11
had some small 15.5 above
separated by forest in part
and the ridge divided it into
to include all original islands
1500 ft above. All 100 ft 50 ft and 10 ft

just prior to departure.
C. L. Baitham found - having all
the necessary living occupation - found
ward to last as 0345 M. Mobile
Borah; Ringleds; two are all
negative.

1 PBRH just above at Nuzie
at 1317 fm 3 lower cland &
Little Oak - level and more
uniform but low flowering. Ride
in open gravel thicket very
rich. Two white barn on cland -
the minimum 140 yers and up to
cut. Twelve (open) cland shot
collected by me 2000 yards -
good looking Patagonian stock
fence cloth, Russian, German,
Spanish the same in Sunday
afternoon - lots of Billed - 1300 yers
long vegetation division
El Nido - Native a tree in
open with giant leaves for
under clear, 3 ft at native down
to each side of down points
Plains and penitence both of
Pinar. 3 ft of coarse shell and
limestone and distance

9 second
(minutes)

[illegible]

✓ Answer - 12, 5, 11

2200 - Hardy 0303037

Yuan-22-2002-105-ant/214

Amphilaan Leeg 0120457 to 0208153

negative and highest dates 02/11/52

Doğ and Fox 0342007

2330 Bury St

Neptunia. 20307002

Huskly oblit Fox Laverick and
George to Kona.

TF 0110292

10	0	50
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3 17147 22/167 9/148

4. 20/93 26/72 10/176

Version 4

led around by a ~~circled~~ Kuntz

① To Bungle - adverb - gracefully

② Harley's was included

③ 2000-2001-2002-2003-2004-2005-2006-2007-2008-2009-2010-2011-2012-2013-2014-2015-2016-2017-2018-2019-2020-2021-2022-2023-2024-2025-2026-2027-2028-2029-2030-2031-2032-2033-2034-2035-2036-2037-2038-2039-2040-2041-2042-2043-2044-2045-2046-2047-2048-2049-2050-2051-2052-2053-2054-2055-2056-2057-2058-2059-2060-2061-2062-2063-2064-2065-2066-2067-2068-2069-2070-2071-2072-2073-2074-2075-2076-2077-2078-2079-2080-2081-2082-2083-2084-2085-2086-2087-2088-2089-2090-2091-2092-2093-2094-2095-2096-2097-2098-2099-2100-2101-2102-2103-2104-2105-2106-2107-2108-2109-2110-2111-2112-2113-2114-2115-2116-2117-2118-2119-2120-2121-2122-2123-2124-2125-2126-2127-2128-2129-2130-2131-2132-2133-2134-2135-2136-2137-2138-2139-2140-2141-2142-2143-2144-2145-2146-2147-2148-2149-2150-2151-2152-2153-2154-2155-2156-2157-2158-2159-2160-2161-2162-2163-2164-2165-2166-2167-2168-2169-2170-2171-2172-2173-2174-2175-2176-2177-2178-2179-2180-2181-2182-2183-2184-2185-2186-2187-2188-2189-2190-2191-2192-2193-2194-2195-2196-2197-2198-2199-2200-2201-2202-2203-2204-2205-2206-2207-2208-2209-2210-2211-2212-2213-2214-2215-2216-2217-2218-2219-2220-2221-2222-2223-2224-2225-2226-2227-2228-2229-2230-2231-2232-2233-2234-2235-2236-2237-2238-2239-2240-2241-2242-2243-2244-2245-2246-2247-2248-2249-2250-2251-2252-2253-2254-2255-2256-2257-2258-2259-2260-2261-2262-2263-2264-2265-2266-2267-2268-2269-2270-2271-2272-2273-2274-2275-2276-2277-2278-2279-2280-2281-2282-2283-2284-2285-2286-2287-2288-2289-2290-2291-2292-2293-2294-2295-2296-2297-2298-2299-2300-2301-2302-2303-2304-2305-2306-2307-2308-2309-2310-2311-2312-2313-2314-2315-2316-2317-2318-2319-2320-2321-2322-2323-2324-2325-2326-2327-2328-2329-2330-2331-2332-2333-2334-2335-2336-2337-2338-2339-2340-2341-2342-2343-2344-2345-2346-2347-2348-2349-2350-2351-2352-2353-2354-2355-2356-2357-2358-2359-2360-2361-2362-2363-2364-2365-2366-2367-2368-2369-2370-2371-2372-2373-2374-2375-2376-2377-2378-2379-2380-2381-2382-2383-2384-2385-2386-2387-2388-2389-2390-2391-2392-2393-2394-2395-2396-2397-2398-2399-2400-2401-2402-2403-2404-2405-2406-2407-2408-2409-2410-2411-2412-2413-2414-2415-2416-2417-2418-2419-2420-2421-2422-2423-2424-2425-2426-2427-2428-2429-2430-2431-2432-2433-2434-2435-2436-2437-2438-2439-2440-2441-2442-2443-2444-2445-2446-2447-2448-2449-2450-2451-2452-2453-2454-2455-2456-2457-2458-2459-2460-2461-2462-2463-2464-2465-2466-2467-2468-2469-2470-2471-2472-2473-2474-2475-2476-2477-2478-2479-2480-2481-2482-2483-2484-2485-2486-2487-2488-2489-2490-2491-2492-2493-2494-2495-2496-2497-2498-2499-2500-2501-2502-2503-2504-2505-2506-2507-2508-2509-2510-2511-2512-2513-2514-2515-2516-2517-2518-2519-2520-2521-2522-2523-2524-2525-2526-2527-2528-2529-2530-2531-2532-2533-2534-2535-2536-2537-2538-2539-2540-2541-2542-2543-2544-2545-2546-2547-2548-2549-2550-2551-2552-2553-2554-2555-2556-2557-2558-2559-2560-2561-2562-2563-2564-2565-2566-2567-2568-2569-2570-2571-2572-2573-2574-2575-2576-2577-2578-2579-2580-2581-2582-2583-2584-2585-2586-2587-2588-2589-2590-2591-2592-2593-2594-2595-2596-2597-2598-2599-2600-2601-2602-2603-2604-2605-2606-2607-2608-2609-2610-2611-2612-2613-2614-2615-2616-2617-2618-2619-2620-2621-2622-2623-2624-2625-2626-2627-2628-2629-2630-2631-2632-2633-2634-2635-2636-2637-2638-2639-2640-2641-2642-2643-2644-2645-2646-2647-2648-2649-2650-2651-2652-2653-2654-2655-2656-2657-2658-2659-2660-2661-2662-2663-2664-2665-2666-2667-2668-2669-2670-2671-2672-2673-2674-2675-2676-2677-2678-2679-2680-2681-2682-2683-2684-2685-2686-2687-2688-2689-2690-2691-2692-2693-2694-2695-2696-2697-2698-2699-2700-2701-2702-2703-2704-2705-2706-2707-2708-2709-2710-2711-2712-2713-2714-2715-2716-2717-2718-2719-2720-2721-2722-2723-2724-2725-2726-2727-2728-2729-2730-2731-2732-2733-2734-2735-2736-2737-2738-2739-2740-2741-2742-2743-2744-2745-2746-2747-2748-2749-2750-2751-2752-2753-2754-2755-2756-2757-2758-2759-2760-2761-2762-2763-2764-2765-2766-2767-2768-2769-2770-2771-2772-2773-2774-2775-2776-2777-2778-2779-2780-2781-2782-2783-2784-2785-2786-2787-2788-2789-2790-2791-2792-2793-2794-2795-2796-2797-2798-2799-2800-2801-2802-2803-2804-2805-2806-2807-2808-2809-2810-2811-2812-2813-2814-2815-2816-2817-2

leaflets and seeds of the

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forming inside water ice cases
inland.

Harley and I at Dai Tei
for eight, about a half of Tokyo,
and late dinner a la Japonaise
with wine and beer for 2/100 to
have their "cultural" 100.
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Hilvan Turen A. George Fuchsici Duroto

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