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Report/Article Title Memorandum with attachment: From Alvin L. Young, regarding Trip Report, Air Force/EPA Orange Registration Meeting, 27 September 1974, Washington, D.C.

Journal/Book Title

Year 1974

Month/Day September 30

Color

Number of Images 6

Description Notes Summary of Herbicide Orange at Gulfport and Johnston Island

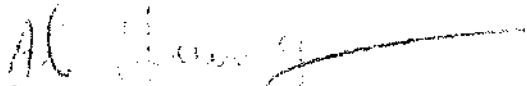
Memorandum for the Record

30 Sep 1974

Trip Report- Air Force/EPA Orange Registration Meeting,
27 Sep 1974, Washington, D.C.

Herbicide Project Personnel

1. On 27 Sep 1974, a meeting between EPA and Air Force (SAFILE) was held to discuss the registration of Herbicide Orange. Dr. Korp, Deputy Assistant Administrator for Pesticide Programs presided as the senior EPA Representative (list of attendees attached). Dr Welch (SAFILE) introduced the problem related to the Air Force inventory of Orange. He emphasized the economic value of the inventory (\$80,000,000), the current need for herbicides in American and World Agriculture, and Air Force's willingness to cooperate with EPA in reaching an acceptable solution. A brief description of the inventory was given (see attachments).
2. Dr. Taylor, AFSC/ARL, WPAFB, described ARL's analytical methodology for "fingerprinting" Orange samples and for determining levels of TCDD. Captain Young, presented information on potential uses of Orange ecological effects, and biodegradation data.
3. Action Items: Following the EPA meeting, Dr. Welch suggested that Air Force submit appropriate data and justification to EPA for a technical registration (Orange could be sold only for reformulation). USAFA/DFLS was charged with forwarding a potential description of use for Orange, 12 copies of AFTL-TR-74-12 (Ecological Studies on a Herbicide Equipment Test Area, Eglin AFB Reservation, Florida), and the report on biodegradation (Field Studies on the Soil Persistence and Movement of 2,4-D, 2,4,5-T, and TCDD). Above material should be sent MLT 1 Oct 1974.


ALVIN L. YOUNG, Captain, USAF, Ph.D.
Associate Professor of Life Science
Project Officer

Atch

1. Attendees
2. Description of Inventory

AIR FORCE - ENVIRONMENTAL PROTECTION AGENCY
 REGISTRATION MEETING
 27 Sept 74

NAME	ORGANIZATION	TELEPHONE
Lt. Col. Pa. E. Nelson	U.S. Air Force (Environmental Quality)	697-9297
Dr. Billy E. Welch	Special Assistant for Environmental Quality Department of the Air Force	697-9297
<u>Capt. Alvin L. Young, Ph.D.</u>	Dept. of Life & Behavioral Sciences USAF Academy, Colo. 80840	303/472-7920
Carlton M. Carter	Hq. USAF/AF/167F	695-5583
Dr. Michael L. Taylor	Gaseous Excitation & Ionization Processes Group Chemistry Research Laboratory Aerospace Research Laboratories WPAFB Ohio 45433	513/255-4869
Dr. Ralph Ross	Criteria & Evaluation Division EPA	557-0704
John B. Ritch, Jr.	Director, Registration Division EPA	426-2451
Dr. H. H. Rogoff	Registration Division EPA	426-2451
J. A. Shaughnessy	Registration Division EPA	426-2610
J. A. Gill	Technical Services Division EPA	426-2632
Henry J. Korp	Deputy Assistant Administrator for Pesticide Programs EPA	755-8033

9/27/74

September 26, 1974

HERBICIDE ORANGE

At Gulfport, Mississippi, where 860,000 gallons of Herbicide Orange are stored, the products are identifiable by manufacturer. Samples were obtained to chemically characterize the material and to determine the level of TCDD contamination. The chemical composition of typical drums selected from the lots of Hercules and Dow have been found to be consistent with the technical grade of similar products presently registered.

The 1,400,000 gallons of Herbicide Orange stored at Johnston Island cannot be identified by manufacturer. Although the material was purchased in the United States and shipped through Gulfport, it has been redrummed. The total chemical composition suitable for a confidential statement of formula has not been determined; however, it is expected to be similar to the material stored at Gulfport as all Herbicide Orange was purchased under the same specification.

The Johnston Island material was sampled in a random fashion to obtain representative TCDD levels. The analyses

indicated concentrations ranging from a low of less than 0.05 ppm to a high of 47 ppm. The levels detected, however, are sharply skewed to the low end. It has been determined, based on the analytical work to date, that with mixing a significant quantity of the material would be expected to have a TCDD concentration of 0.25 ppm (see Attachment 1).

To insure a product with a known concentration of TCDD, a drum-by-drum analysis would be performed in order to exclude drums with unacceptably high concentrations. A custom mixing system would be established to mix the product to reach a predetermined acceptable level of TCDD. Subsequently, a sample would be taken to verify the TCDD concentration and to chemically characterize the mixed product for registration purposes.

Depending on the acceptable level of TCDD, up to approximately 1.5 million gallons could be registered. This quantity of material would represent a commercial resale value of \$60 million and a concomitant saving to the taxpayer.

GULFPORT

Quantity Stored: 860,000 gallons (approximate)

Manufacturers Products Proposed to Be Registered:

Hercules 145,860 gallons

Dow 383,955 gallons

TCDD Concentration*:

Hercules ~ 0.05

Dow ~ 0.1

JOHNSTON ISLAND

Quantity Stored: 1,400,000 gallons (approximate)

Manufacturers Products Proposed to Be Registered: Unknown

TCDD Concentration*:

~ 0.12	700,000 gallons	(50%)
~ 0.20	950,000 gallons	(68%)
~ 0.25	1,000,000 gallons	(77%)

* Analysis by Dow Chemical Company

JOHNSTON ISLAND

1,378,740 Gallons

DIOXIN RANGE	AVERAGE DIOXIN CONCENTRATION IN RANGE (ppm)	PERCENT OF STOCK IN RANGE	GALLONS IN RANGE	CUMULATIVE PERCENT OF TOTAL STOCK	AVERAGE DIOXIN CONCENTRATION IN CUMULATIVE MIXTURE (ppm)	GALLONS OF CUMULATIVE MIXTURE
0 - .05	.05	14.5	199,917	14.5	.05	199,917
.06 - .1	.08	19	261,961	33.5	.067	461,878
.11 - .2	.2	4	55,150	37.5	.081	517,028
.21 - .3	.3	12.5	172,342	50	.136	689,370
.31 - .4	.4	11	151,661	61	.184	841,031
.41 - .5	.5	7	96,512	68	.216	937,543
.51 - 1.0	.67	8.5	117,193	76.5	.267	1,054,736
1.1 - 5.0	2.79	12	165,449	88.5	.609	1,220,185
5.1 - 10.0	7.89	9	124,087	97.5	1.28	1,344,272
0.1 - 20	15	1	13,787	98.5	1.42	1,358,059
> 20	34	1.5	20,681	100	1.91	1,378,740