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NCBC GULFPORT
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TELECOMMUNICATION TRANSCRIPTION REGARDING PROJECT WRAP UP FOR HERBICIDE ORANGE CLEANUP NCBC GULFPORT MS
12/9/1988
NCBC GULFPORT

Memo

from the
Command Public Affairs Officer

TO: CO/XO DATE: 12/9

SUBJ: TELICOPY MESSAGE FROM TYNDALL AFB

Attached is a message from the Air Force Engineer and Services Center, Tyndall, re conclusion of Herbicide Orange project here.

They want to plan a media event for the wrap-up of the project. Jeff Short had already talked to me a little about it.

VR

NANCY

copy to:
Gary Horman

DEC 9 1988

ELECTRO MAIL TRANSMITTAL COVER SHEET

1. TO BE COMPLETED BY ORIGINATOR

INSTRUCTION

IT IS THE OPR RESPONSIBILITY TO CONTACT THE RECIPIENT/OR MAIL ROOM TO VERIFY RECEIPT OF THIS TRANSMISSION. NOT FOR CLASSIFIED TRANSMISSIONS.

TRANSMISSION	RETURN TO ORIGINATOR	NO. OF PAGES 10, INCLUDING COVER SHEET
IMMEDIATE ☒ ROUTINE (3hrs) ☐	YES ☐ NO ☐	

SUBJECT OF MATERIAL TRANSMITTED

Conclusion, Herbicide Orange Research

TO: (ORGANIZATION/OFFICE SYMBOL AND LOCATION)

NCRC/PA

DATE 12/8/88

FACSIMILE COPIER NO. AV 363-2232

COMMERCIAL NO. _____

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WASH D.C. FEX NO. _____

(Wash D.C. Area Only)

FROM: HQ AFESC/ PA ATTN: Perry TYNDALL AFB FLORIDA 32403-6001	PHONE 36467	HQ AFESC FACSIMILE NUMBER: AUTOVON 523-6499 COMMERCIAL (904) 283-6499 VERIFY: AV 523-6468

PLEASE NOTIFY _____ UPON RECEIPT OF THIS TRANSMISSION

REMARKS:

2. TO BE COMPLETED BY FACSIMILE OPERATOR

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FROM HQ AFESC TYNDALL AFB FL//PA//

TO OSAF PENTAGON WASH DC//PATR/RQ//

HQ USAF BOLLING AFB DC//LEEV//

HQ AFSINC KELLY AFB TX//II//

DET 2 1365AVS KEESLER AFB MS//DO//

INFO NCBC GULFPORT MS//PA//

EPA ATLANTA GA//DIRECTOR/PA//

HQ AFLC WPAB OH//PA//

HQ AFSC ANDREWS AFB MD//SD/PA//

UNCLAS

SUBJ: CONCLUSION, HERBICIDE ORANGE RESEARCH

THIS MESSAGE IS IN THREE PARTS

PART ONE (BACKGROUND FOR ALL)

TYNDALL AFB, FLA. -- A 27-MONTH-LONG AIR FORCE RESEARCH EFFORT ON HOW TO RESTORE A SITE CONTAMINATED WITH HERBICIDE ORANGE CONCLUDES SOON AT THE NAVAL CONSTRUCTION BATTALION CENTER, GULFPORT, MISS. A CONTRACTOR TO THE AIR FORCE ENGINEER AND SERVICES CENTER, WORKING AT GULFPORT, INCINERATED MORE THAN 26,000 TONS OF CONTAMINATED SOIL SINCE FULL-SCALE INCINERATION EFFORTS BEGAN NOVEMBER, 1987.

OFFICIALS OF HQ AFESC SAID THAT THE FIRST ENVIRONMENTAL

(CONT)

DRAFTER TYPED NAME, TITLE, OFFICE SYMBOL, PHONE
H. PERRY SULLIVAN, JR. GM-13
DEPUTY DIRECTOR PA 36467
HQ AFESC/PA

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RANDY E. SIPE, CAPT, PA36476

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PROTECTION FROM AGENCY-APPROVED TEST OF A TRANSPORTABLE, ROTARY KILN INCINERATOR TO RID THE SOIL OF DIOXIN, A RESIDUE IN HERBICIDE ORANGE, HAS BEEN SUCCESSFUL.

THE 18-ACRE NCBC SITE WAS CONTAMINATED WHEN NCBC WAS A STORAGE AND TRANSHIPMENT SITE FOR THE HERBICIDE DURING THE WAR. IN ADDITION, SOME OF THE 15480 55-GALLON DRUMS OF THE HERBICIDE STORED THERE AFTER THE SOUTHEAST ASIA WAR LEAKED DUE TO CORROSION, CONTAINER DAMAGE OR HANDLING MISHAPS.

IN 1977, THE CONTENTS OF THE DRUMS WERE TRANSFERRED TO THE SS VULCANUS, WHICH TOOK THE HERBICIDE TO JOHNSTON ISLAND IN THE PACIFIC. THERE, THE GULFPORT STOCKS TOTALING APPROXIMATELY 850,000 GALLONS WERE INCINERATED ALONG WITH 1.37 MILLION GALLONS WHICH WERE STORED ON THE ISLAND.

THE GULFPORT RESEARCH

AIR FORCE AND NAVY OFFICIALS HAVE SEARCHED FOR ALTERNATIVES WHICH COULD BE USED TO RESTORE THE SITE. IN THE MEANTIME, TESTS AND SITE MONITORING BY THE ENGINEERING AND SERVICES LABORATORY CHARACTERIZED THE EXTENT OF HERBICIDE CONTAMINATION. ALSO, TWO SMALL-SCALE RESEARCH PROJECTS TESTED THE INNOVATIVE METHODS TO CLEANUP THE SITE.

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A POSSIBLE SOLUTION WAS THE ROTARY KILN INCINERATOR TECHNOLOGY OF THE ENSCO CORPORATION, WHICH IS SUFFICIENTLY TRANSPORTABLE FOR MOVING FROM SITE TO SITE. IT WAS LICENSED BY THE EPA FOR INCINERATING POLYCHLORINATED BIPHENYLS (PCBs).

THE LABORATORY AT HQ AFESC APPLIED FOR EPA APPROVAL AND AFTER PUBLIC HEARINGS AND ON-SITE TESTS THE EPA CLEARED THE PROJECT FOR FULL-SCALE INCINERATION STARTING IN NOVEMBER OF 1987. TESTING INCLUDED SURROGATE CHEMICALS KNOWN TO HAVE HIGHER THRESHOLDS FOR DESTRUCTION THAN THE DEFOLIANT AND ONE OF ITS CONSTITUENT COMPOUNDS. DESTRUCTION AND REMOVAL RATE EXCEEDED THE EPA REQUIREMENT FOR DIOXIN-:SIX 9s," OR 99.9999 PERCENT.

BEFORE TESTS BEGAN AT GULFPORT, EXTENSIVE PUBLIC HEARINGS WERE HELD FOR NCBC PERSONNEL, LOCAL PUBLIC OFFICIALS, AND THE GENERAL PUBLIC. THIS WAS PART OF THE ENVIRONMENTAL IMPACT STATEMENT PROCESS.

THE BYPRODUCTS OF DIOXIN INCINERATION ARE WATER VAPOR, HYDROCHLORINE ACID, AND CARBON DIOXIDE. THE EMISSIONS FROM THE COMBUSTION PROCESS ARE CLEANED BY THE AIR POLLUTION CONTROL SYSTEMS. GREATER THAN 99 PERCENT OF ALL PARTICULATE MATTER LARGER THAN THREE MICRONS IS REMOVED. (A MICRON IS 1 MILLION OF AN INCH.) AS EACH BATCH OF SOIL WAS INCINERATED, IT WAS STORED IN COVERED BINS UNTIL LABORATORY

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TESTS PROVED IT FREE OF DEFOLIANT-RELATED CONTAMINATNS. SOIL WAS RESTORED TO THE SITE. EVENTUAL RESTORATION INCLUDES RECONTOURING AND RESTABLIZATION FOR USE BY THE NAVY.

STRICT SAFETY PRECAUTIONS WERE TAKEN TO PROTECT PERSONNEL. WORKERS USED PROTECTIVE CLOTHING. MORE THAN 1,000 TONS OF POTENTIALLY CONTAMINATED DEBRIS, INCLUDING CLOTHING, WAS ALSO INCINERATED. FOLLOWING COMPLETION OF THE INCINERATION PROJECT, ALL EQUIPMENT WILL BE DECONTAMINATED, DECONTAMINATION WASH FLUIDS AND OTHER RESIDUE WILL BE INCINERATED, AND THEN THE INCINERATOR WILL BE GIVEN A FINAL BURN TO PURGE IT. IT WILL THEN BE DISASSEMBLED AND MOVED.

BACKGROUND

HERBICIDE ORANGE WAS ONE OF SEVERAL USED IN THE SOUTHEAST ASIA WAR TO DEFOLIATE JUNGLES WHICH PROVIDED COVER TO THE ENEMY. USE OF HERBICIDES BEGAN IN 1961 AT THE REQUEST OF THE PRESIDENT OF SOUTH VIETNAM, AND CONTINUED UNTIL IT WAS BANNED BY SECRETARY OF DEFENSE MELVIN LAIRD IN 1971.

HERBICIDE ORANGE WAS A 50:50 MIXTURE OF 2,4-D (DICHLOROPHENOXY-ACETIC ACID) AND 2,4,5-T (TRICHLOROPHENOXYACETIC ACID). TWO VERSIONS WERE FORMULATED. THE TERM "DIOXIN" REFERS TO AN IMPURITY IN 2,4,5-T, 2,3,7,8-TETRACHLORODIBENZO-PARADIOXIN (TCDD).

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AN INCINERATOR SHIP WAS PROPOSED AS A SOLUTION IN 1974. AFTER PUBLIC HEARINGS IN FEBRUARY, 1975, THE EPA RECOMMENDED USING OTHER TECHNOLOGY TO REMOVE THE DIOXIN. TECHNOLOGIES INVESTIGATED REMOVED THE DIOXIN, BUT HAS THE EFFECT OF CONCENTRATING IT AT A LEVEL BEYOND WHICH SAFE DISPOSAL COULD BE ASSURED. IN FEBRUARY, 1977, THE AIR FORCE RECOMMENDED ENDING RESEARCH FOR ALTERNATIVES. AT THE REQUEST OF THE AIR FORCE, EPA OPENED NEW PUBLIC HEARINGS IN APRIL, 1977. AFTER EPA APPROVAL, STOCKS WERE REMOVED UNDER STRICT SAFETY GUIDE-LINES FROM GULFPORT AND INCINERATED ABOARD THE VULCANUS.

THE INCINERATION IN 1977 SET A PATTERN FOR THE CURRENT RESEARCH EFFORT. GUIDELINES FOR LOADING THE DEFOLIANT ON THE SHIP INCLUDED SAFETY GEAR FOR PERSONNEL, DECONTAMINATION OF THE DRUMS, PUTTING THE DECONTAMINATION WASH ON THE SHIP FOR INCINERATION, AND HEALTH TESTING OF ALL PERSONNEL INVOLVED IN THE LOADING AND INCINERATION OPERATIONS.

THE LABORATORY AT THE USAF OCCUPATIONAL AND ENVIRONMENTAL HEALTH LABORATORY HAS MONITORED THE SITE AT NCBC SINCE 1972.

QUESTIONS AND ANSWERS

HOW MUCH HERBICIDE WAS USED SURING THE SOUTHEAST ASIA WAR AND HOW MUCH OF IT WAS IN THE ORANGE FAMILY?

OF THE 17-TO-19 MILLION ESTIMATED GALLONS OF HERBICIDE USED

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DURING THE WAR, FROM 10.6 TO 11.7 MILLION WERE IN THE ORANGE FAMILY.

WHAT WERE THE DIFFERENCES BETWEEN ORGANE AND ORANGE II?

THE FIRST HERBICIDE KNOWN BY THE CODE NAME "ORANGE" WAS 50 PERCENT N-BUTYL ESTER OF 2,4-D AND 50 PERCENT N-BUTYL ESTER OF 2,4,5-T. THE LATTER INGREDIENT WAS CHANGED IN ORANGE II TO A 50 PERCENT ISOOCTYL ESTER OF 2,4,5-T.

OF THE STOCKS LEFT OVER AT THE END OF THE WAR, HOW MUCH WAS THE TOTAL AMOUNT OF DIOXIN OR TCDD IN THESE STOCKS?

THE QUANTITY OF DIOXIN ESTIMATED IN THE POST-WAR STOCKS WAS ABOUT 44 POUNDS, BASED ON AN ESTIMATED TWO PARTS PER MILLION.

IS THERE A DIRECT RELATIONSHIP BETWEEN DIOXIN AND ANY KNOWN DISEASE?

NONE HAS YET BEEN ESTABLISHED. MOST RESEARCHERS HAVE BEEN UNABLE TO SEGREATE THE EFFECTS OF DIOXIN FROM THOSE OF OTHER CHEMICALS IN THE ENVIRONMENT.

WHEN WAS THE USE OF AN INCINERATOR SHIP FIRST PROPOSED TO DESTROY THE POST-SOUTHEAST ASIA WAR STOCKS, AND WHY?

FIRST USE OF AN INCINERATOR SHIP TO DESTROY THE STOCKS WAS PROPOSED BY THE AIR FORCE IN DECEMBER, 1974. INCINERATOR SHIPS WERE WIDELY ACCEPTED IN EUROPE AS A METHOD OF DISPOSING OF HAZARDOUS WASTE

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HOW DOES RESTORATION OF THE GULFPORT SITE FIT INTO THE OVERALL AIR FORCE PLAN FOR HAZARDOUS WASTE SITES?

THE AIR FORCE IS COMMITTED TO RETURNING HERBICIDE ORANGE-CONTAMINATED SITES TO BENEFICIAL USE. AIR FORCE PROGRAMS HAVE SOUGHT TO IDENTIFY AND CATEGORIZE ALL HAZARDOUS WASTE SITES OF ACTIVE AIR FORCE INSTALLATIONS, FORMERLY ACTIVE INSTALLATIONS, AND SOME SITES OPERATED BY CONTRACTORS. THIS RESEARCH PROJECT WILL EXAMINE THE INCINERATION ALTERNATIVE FOR OTHER SOIL CONTAMINATION SCENARIOS.

WHAT IS THE ROLE OF THE ENGINEERING AND SERVICES LABORATORY?

ESL LEADS IN NUMEROUS AREAS OF HAZARDOUS WASTE AND NEUTRALIZATION, MINIMIZATION, AND IDENTIFICATION. IN MANY CASES, THIS INVOLVES RESEARCHING COMMERCIALLY AVAILABLE TECHNOLOGIES, AND ADAPTING THEM TO THE AIR FORCE REQUIREMENT. IN OTHER CASES, IT INVOLVES TOTALLY NEW TECHNOLOGIES.

WHY WAS THE SOIL NOT REMOVED FROM THE GULFPORT SITE EARLIER?

MOVING THE SOIL MEANS THE POTENTIAL OF SPREADING THE CONTAMINATION OVER WIDER AREA. WHEN TESTS AND SITE MONITORING PROVED THAT THE CONTAMINANTS WERE NOT BEING TRANSPORTED OFF SITE, LEAVING THE SOIL IN PLACE WAS THE BEST ALTERNATIVE.

CAN THE INCINERATOR BE USED FOR OTHER POLLUTION SITES?

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YES. FROM INCINERATION IS THE BEST DEMONSTRATED AVAILABLE TECHNOLOGY FOR MANY CHLORINATED HYDROCARBONS, POTENTIALLY ONE OF THE MOST HARMFUL FAMILIES OF HAZARDOUS CHEMICALS.

IS THERE ANY OTHER KNOWN PLACE IN THE U.S. WHERE HERBICIDE ORANGE IS IN SOIL RESIDUE?

THE DEFOLIANT WAS STORED IN NUMEROUS PLACES, AND SOME EXPERIMENTS WERE CONDUCTED IN SOIL. THE ONLY SIGNIFICANT STORAGE OTHER THAN NCBC WAS ON JOHNSTON ISLAND. THERE IS ALSO AN AIRCRAFT PAD AT EGLIN AFB WHICH IS CONTAMINATED WITH TCDD.

HOW MUCH IS THE RESEARCH PROJECT COSTING?

ABOUT $18.7 MILLION. THIS INCLUDES SITE CHARACTERIZATION, RESEARCH AND DEVELOPMENT, CONTRACTING, OPERATIONS, FINAL DISPOSITION OF THE TREATED SOIL, AND TECHNICAL REPORTS.

PART TWO FOR SAF/PA

REQUEST THAT THE ABOVE BACKGROUND BE ISSUED AS A NOTICE TO CORRESPONDENTS. AN APPROPRIATE CEREMONY MAKING THE RETURN OF THE RECOVERED SITE TO THE NAVY IS PLANNED FOR LATE DECEMBER, EARLY JANUARY. SAF/PA WILL BE ADVISED.

PART THREE FOR AAVS

REQUEST A 3-MINUTE VIDEO CLIP FROM DOCUMENTATION VIDEOTAPE

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ASSETS BE REASSEMBLED SHOWING THE PROJECT IN VIDEOJOURNALISM FORMAT. MR SULLIVAN, TO AFESC/PA, AND MR SHORT, HQ AFESC/RDV, WILL PROVIDE TECHNICAL ASSISTANCE REQUIRED.

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