

National Aeronautics and  
Space Administration  
**Ames Research Center**  
Moffett Field, CA 94035-1000

N00296.000680  
MOFFETT FIELD  
SSIC NO. 5090.3.A



Reply to Attn of:

QE:218-1

JUL 25 2003

Ms. Lida Tan  
Remedial Project Manager  
Federal Facilities, Superfund SFD-8-3  
U.S. Environmental Protection Agency, Region 9  
75 Hawthorne Street  
San Francisco, CA 94105

Dear Ms. Tan:

Enclosed is the revised action memorandum for the sampling and removal of contaminated sediment from the storm water drainage trenches and pavement surrounding Hangar 1. While Hangar 1 is within the U.S. Navy's CERCLA site, NASA Ames Research Center is initiating the removal of this contaminated sediment in order to protect its storm water sewer system.

Please feel free to call me at 650-604-3355 if you have any questions.

Cordially,

A handwritten signature in cursive script that reads "Sandra M. Olliges".

Sandra M. Olliges  
Chief, Environmental Services Office

Enclosure

cc: Alana Lee, USEPA  
Max Weintraub, USEPA, Region 9, Toxics Section  
Hilary Waites, Tech Law  
Adriana Constantinescu, RWQCB  
Andrea Espinoza, US Navy, SWDIV  
Fred Banker, RMT, Inc.  
Bob Moss, Navy RAB Co-Chair  
James McClure, RAB THE Committee  
Peter Strauss, PM Strauss & Assoc

National Aeronautics and  
Space Administration  
**Ames Research Center**  
Moffett Field, CA 94035-1000



Reply to Attn of:

QE:218-1

**MEMORANDUM**

**DATE:** July 17, 2003

**SUBJECT:** Request for Time-Critical Removal Action at Hangar 1, Moffett Field, Santa Clara County, California

**FROM:** Ms. Sandra M. Olliges, Chief, Environmental Services Office,  
NASA Ames Research Center

**TO:** Ms. Lida Tan, Remedial Project Manager, U.S. Environmental  
Protection Agency, Region 9

**I. PURPOSE**

The purpose of this memorandum is to document the need for a time-critical removal action described herein at the storm water drainage trenches surrounding Hangar 1 at Moffett Field, California, 94035-1000. Although Hangar 1 and the surrounding storm water drainage trenches are within the U.S. Navy's CERCLA site at Moffett Field, the NASA Ames Research Center (NASA-Ames) is proposing to undertake this action in order to protect the storm water sewer system for which it is responsible. PCBs in the Hangar 1 storm water drains are a continued source of PCB contamination. These storm drains eventually flow out to the storm water retention basin. This time-critical removal action is necessary to eliminate the source of PCB contamination at the storm water retention basin.

**II. SITE CONDITIONS AND BACKGROUND**

Former Moffett Field Naval Air Station

Site Status: NPL-Final  
Category of Removal: Time-Critical  
CERCLIS ID: CA2170090078  
Superfund Site ID: 0902734

**A. Site Description**

## 1. Physical location/Site Characteristics/Background

The removal action site is located at the former Moffett Field Naval Air Station located at NASA Ames Research Center, Moffett Field, California. The removal action site is the area surrounding the exterior of Hangar 1 including the storm water drainage trenches and paved concrete surfaces immediately adjoining the building. The site is bounded by Cummins Avenue to the west, Sayre Avenue to east, Bushnell Street to the north and Cody Road and the south aircraft ramp to the south. The site is approximately 10 miles north of San Jose near the junction of Highways 101 and 85.

Hangar 1 was constructed in 1933 when Moffett Field commissioned the U.S. military's lighter-than-air program. Hangar 1 is a steel-framed metal structure with metal-clad siding. As part of Moffett Field Naval Air Station, the Hangar was used by the U.S. military continuously following its construction. In 1994 the U.S. Navy transferred Moffett Field Naval Air Station, including Hangar 1, to the National Aeronautics and Space Administration (NASA).

## 2. Removal site evaluation

Earlier investigations by the U.S. Navy and NASA-Ames identified asbestos and lead in Hangar 1. Asbestos is present in building materials such as pipe insulation and Galbestos. Lead has been found in paint throughout the structure.

Recent investigations conducted by NASA found polychlorinated biphenyls (PCBs) in the materials from which Hangar 1 is constructed. Two bulk samples taken in July 2002, one of the roofing material and one of the Galbestos siding, contained high concentrations of Aroclor 1268, an uncommon form of PCB. Subsequent sampling in October and November 2002 and January 2003 has shown that PCBs as Aroclor 1260 and Aroclor 1268 are found in the Galbestos coating, roofing materials, window putty, and other interior and exterior building materials.

A rainwater sample taken from Manhole SD107, located in the parking lot south of building N-248 near the corner of Bushnell and Cummins Roads, had a detectable level of Aroclor 1268. Samples taken in March 2003 found detectable concentrations of Aroclor 1268 in rainwater and in sediment taken from the storm water drainage trench running along the eastern side of the Hangar.

Table 1 provides a summary of NASA-Ames' investigations of the exterior of the Hangar and the surrounding environment.

**Table 1.  
Hangar 1 Exterior Sampling Results**

Date	Sample	Analyte(s)	Result(s)
Jul. 2002	Bulk samples from: Siding Roof	PCBs** Aroclor 1268	57,000 µg/Kg 39,000,000 µg/Kg
Oct. 2002	Storm water, Manhole SD 107	PCBs ** (Aroclor 1268)	3 µg/L
Oct. 2002	Storm water, Settling basin effluent	PCBs ** (Aroclor 1268)	0.6 µg/L
Oct. 2002	Sediment, Storm water settling basin (influent)	PCBs ** (Aroclor 1268)	2900 µg/mg
Oct. 2002	Environmental ambient air sampling; outside of Hangar; 4 screening stations,	PCBs  Lead	Non-detect  0.013 µg/m <sup>3</sup> ***
Nov. 2002	Environmental ambient air sampling	PCBs	Non-detect
Jan. 2003	Hangar building materials: Multi-ply asphalt roof membrane; 6 samples taken, 5 layers per sample  Roof sealant; 1 sample  Upper (black) coated corrugated steel panel siding; 8 samples taken  Lower(gray) coated corrugated composite panel siding; 10 samples taken  Putty, 8 samples taken	PCBs ** Aroclor 1260 Aroclor 1268  Aroclor 1260 Aroclor 1268  Aroclor 1260 Aroclor 1268  Aroclor 1260 Aroclor 1268  Aroclor 1260 Aroclor 1268	0.5 ppm *** 0.9 ppm ***  4.4 ppm 5.7 ppm  < 2 – 12 ppm < 5 – 119 ppm  20 – 35,000 ppm 15 – 5,500 ppm  1.7 – 77 ppm 4 – 409 ppm
Jan. 2003	Paint from various exterior Hangar surfaces	Lead	19 of 36 samples ≥ 1.0 mg/cm <sup>2</sup>
Jan. 2003	Bulk paint chips; 2 samples taken	Lead	101,000 – 200,000 ppm
Jan. 2003	Various materials from exterior roofing and surfacing materials; 40 samples taken	Asbestos	18 samples with 0.7 – 18 % asbestos (as Chrysotile)
Mar. 2003	Rainwater from Hangar siding *	PCBs ** (Aroclor 1268)	3.09 µg/L and 6.7 µg/L
Mar. 2003	Rainwater from Hangar downspout *	PCBs ** (Aroclor 1268)	0.366 µg/L; and non-detect
Mar. 2003	East side Hangar storm water drainage trench sediment *	PCBs ** (Aroclor 1268)	65.5 ppm and 72.4 ppm

\*Full suite of PCBs; only results above non-detect shown

\*\* Split sample sent to 2 analytical labs.

\*\*\* Maximum concentration of analyte(s)

### **3. Release or threatened release of a hazardous substance, or pollutant or contaminant, into the environment**

Hangar 1 is constructed of a variety of materials, some of which contain PCBs as Aroclors 1260 and 1268), lead, and asbestos. The exterior surfaces are in fair condition and have degraded due to age and weathering, and some debris presumably from the exterior of the Hangar has been observed on concrete surfaces proximate to the Hangar. Sampling indicates that release of PCBs from the exterior of the Hangar has occurred (see Table 1), and most likely, continues to occur.

### **4. NPL Status**

Hangar 1 is located at the former Moffett Field Naval Air Station. Moffett Field Naval Air Station is on the NPL list, CERCLIS ID number CA2170090078.

### **5. Map**

A map showing the storm water drainage trench around Hangar 1 as well as the pre-removal sampling points is included in Attachment 1.

## **B. State and Local Authorities' Roles**

NASA-Ames has provided its findings to the U.S. Navy's Naval Facilities Engineering Command Southwest Division, which oversees the CERCLA activities at the former Moffett Field Naval Air Station. The PCB contamination identified at Hangar 1 will be addressed by the Navy under CERCLA and the Moffett FFA.

NASA has closed the Hangar to all uses, except maintenance, abatement, and security personnel.

On December 19, 2002 and April 17, 2003 NASA-Ames and EPA Region 9 representatives met by telephone to discuss the discovery of PCBs at Hangar 1 and in the nearby environment. NASA-Ames has had several follow-up meetings to date with EPA Region 9 personnel to review options for managing PCBs at the Hangar and to pursue a time-critical removal action of the PCBs in the storm water drainage trenches and on exterior paved surfaces adjacent to the structure.

NASA-Ames contacted Mr. Greg Bartow of the San Francisco Bay Area Regional Water Quality Control Board (RWQCB) in December 2002 to notify him that the source of the Aroclor 1268 reported in the annual storm water reports for rain-years 1999-2000, 2000-2001, and 2001-2002 had been identified as Hangar 1 due to the presence of materials containing that substance in the Hangar's building materials. Mr. Bartow subsequently informed other RWQCB personnel. RWQCB staff have indicated to NASA-Ames that they expect that EPA will be the lead regulatory agency regarding actions taken at Hangar 1.

In December 2002 and January and February 2003, NASA-Ames contacted Mr. Mardis Coers and Mr. Stan Phillippe of the California Department of Toxic Substances Control (DTSC) to discuss findings to date. DTSC deferred to the RWQCB and EPA concerning any mitigation actions at Hangar 1.

### **III. Authority for Removal Action**

Conditions at the site present a release and a potential threat of a release, of a CERCLA hazardous substance threatening public health, or welfare or the environment based on the factors set forth in the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 CFR § 300.415(b)(2).

Hangar 1 is constructed of a variety of materials, some of which contain high levels of PCBs as Aroclor 1260 and Aroclor 1268, lead and asbestos. The exterior surfaces are in fair condition and have degraded due to age and weathering, and some debris presumably from the exterior of the Hangar has been observed on concrete surfaces proximate to the Hangar.

PCBs have been detected in earlier storm water and sediment samples taken by NASA-Ames.

Storm water samples taken in October 2002 exceed EPA's Water Quality Criteria for PCBs in fresh and salt water of 0.014 micrograms per liter ( $\mu\text{g/L}$ ) and 0.03  $\mu\text{g/L}$  respectively.

Sediment sampled from one of the storm water drainage trenches in March 2003 exceeds EPA's TSCA limit of 50 parts per million (ppm).

It is unknown whether soil at or near the surface in the areas surrounding Hangar 1 contains high levels of hazardous substances or pollutants or contaminants. This removal action only addresses the contaminated sediment in the Hangar 1 storm water drains. Any exposed soil around Hangar 1 would need to be investigated as part of the Navy's Hangar 1 CERCLA remediation investigation.

### **IV. PROPOSED ACTION AND ESTIMATED COSTS**

#### **A. Description of Proposed Action**

##### **1. Description of Proposed Removal Action**

NASA-Ames proposes to sample the sediment in the storm water drainage trenches surrounding Hangar 1. A total of approximately 17 samples will be taken of the sediment. The samples of the sediment in the storm water drainage trenches will be analyzed for PCBs, including Aroclors 1268 and 1260, lead, zinc, and asbestos. This pre-removal sampling is being conducted to provide NASA with a better understanding of the actual PCB distribution and concentrations in the storm drain sediments, and to provide

characterization for disposal purposes. Any sediment that meets the hazardous waste toxicity characteristic for PCB, lead, zinc, and/or asbestos will be disposed to a hazardous waste Treatment, Storage and Disposal Facility authorized to accept these materials.

## **2. Contribution of Removal Action to the Performance of a Remedial Action for the site**

The time-critical removal action would remove contaminants from the Hangar 1 storm water drainage trenches and on the paved surfaces immediately proximate to the Hangar. Removal of contaminants from these areas will abate the immediate threats to the storm water system, reducing threats to public health, welfare and the environment. . This time-critical removal action is necessary to reduce the source of the PCB contamination in the storm water retention basin as well as to allow the scheduled remediation at Site 25 Eastern Dike Marsh, currently scheduled for summer or fall of 2003.

## **3. Applicable or relevant and appropriate requirements (ARARs)**

Section 300.415(j) of the NCP provides that removal actions must attain ARARs to the extent practicable, considering the exigencies of the situation.

Section 300.5 of the NCP defines *applicable requirements* as cleanup standards, standards of control, and other substantive environmental protection requirements, criteria or limitations promulgated under Federal environmental or State environmental or facility siting laws that specifically address a hazardous substance, pollutant, contaminant, remedial action, location or other circumstances at a CERCLA site.

Section 300.5 of the NCP defines *relevant and appropriate* requirements as cleanup standards, standards of control and other substantive requirements, criteria, or limitations promulgated under Federal environmental or State environmental or facility siting laws that, while not "applicable" to a hazardous substance, pollutant, or contaminant, remedial action, location, or other circumstances at a CERCLA site, address problems or situations sufficiently similar to those encountered at the CERCLA site and are well-suited to the particular site.

Because CERCLA on-site response actions do not require permitting, only substantive requirements are considered as possible ARARs. Administrative requirements such as approval of, or consultation with administrative bodies, issuance of permits, documentation, reporting, record keeping, and enforcement are not ARARs for the CERCLA actions confined to the site.

The following ARARs have been identified for the proposed response action. All can be attained.

### Federal ARARs

Potential Federal ARARs are:

- Hazardous Waste from Non-Specific Sources, 40 CFR 261.31 and Toxicity Characteristics, 40 CFR 261.24;

- Land Disposal Restrictions, 40 CFR 268.40 Subpart D;
- Polychlorinated Biphenyls Management, 40 CFR 761;
- CERCLA Off-Site Disposal Rule OSWER Directive 9347.3-8FS;
- EPA's Moffett Field site-specific ecological and residential cleanup levels and
- U.S. Department of Transportation of Hazardous Materials Regulations 49 CFR Part 171, 172 and 173.

State ARARs:

Potential California ARARs are:

- California toxicity characteristics for hazardous waste in California Code of Regulations Title 22 sections 66261.24 and 66261.113).
- DTSC's NASA Ames site specific residential cleanup level for PCBs in soil.
- NPDES permit for stormwater associated with industrial activity, California Regional Water Quality Control Board, San Francisco Bay Region

**4. Project schedule**

It is estimated that the removal action, including removal of contaminants from the Hangar 1 storm water drainage trenches and on the paved surfaces immediately proximate to the Hangar and disposal of any hazardous waste, will not exceed 3 months.

**B. Estimated Costs of Removal Action**

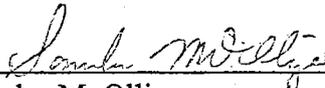
NASA-Ames estimated costs are:

• Sampling and analysis (approximately 17 samples, estimated \$80 per sample for PCB, lead, zinc, asbestos analyses)	\$1,360.00
• Sediment removal and disposal (assuming 5 drums of PCB/lead contaminated sediment/debris)	\$10,000.00
Total estimated costs	<u>\$11,360.00</u>

**V. Approval of Action**

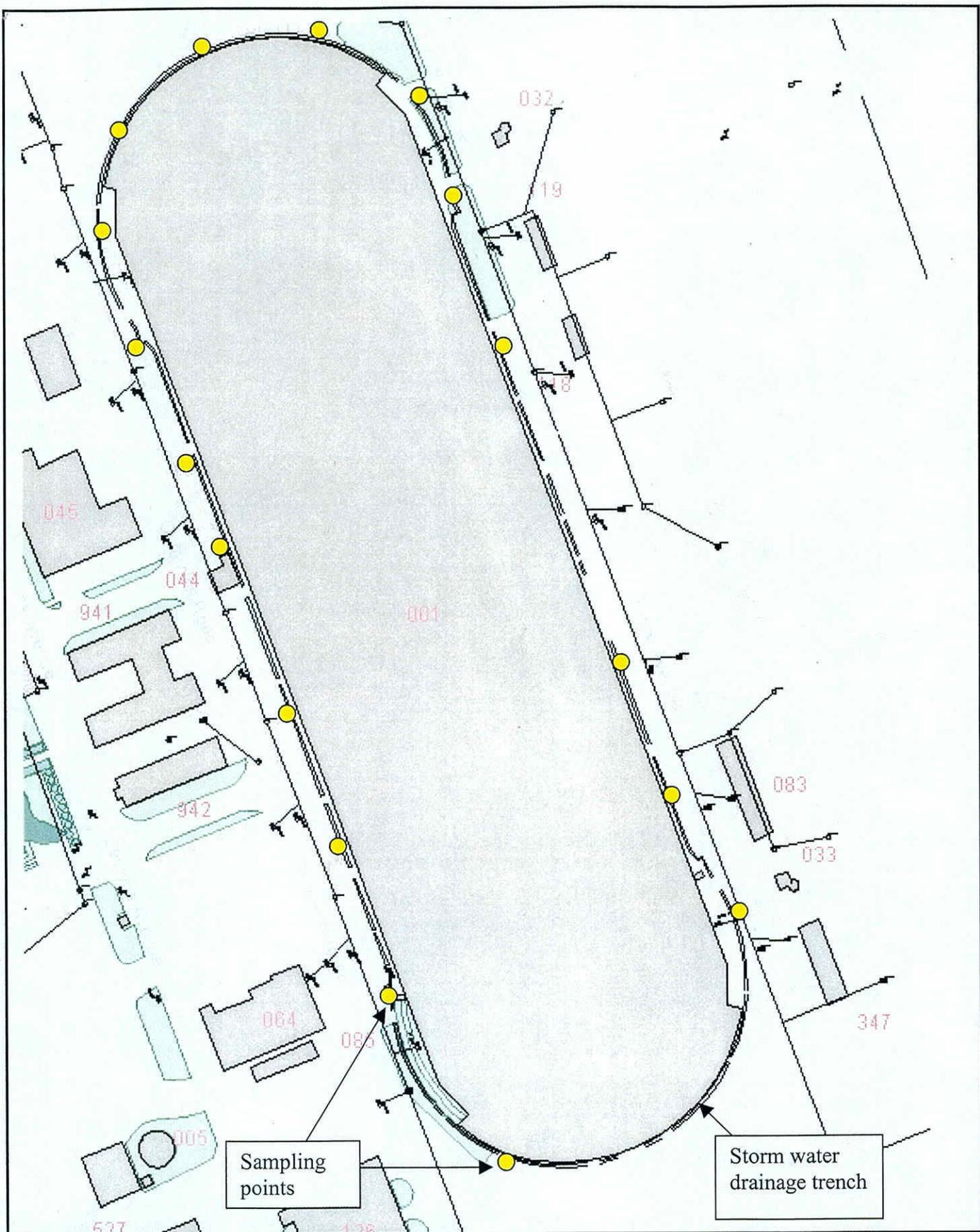
This action memorandum was prepared in accordance with current US EPA guidance documents for Time-Critical Removal Actions. This document represents the recommended removal action for the removal of environmental contamination at the exterior of Hangar 1, Moffett Field, California, including the storm water drainage trenches and paved concrete surfaces immediately adjoining the building, developed in accordance with CERCLA as amended, and not inconsistent with the NCP. The removal action described herein will contribute to the overall goals of the Former Moffett Field

Naval Air Station CERCLA actions, and in addition will protect the NASA storm water system.

  
\_\_\_\_\_  
Sandra M. Olliges,  
Chief, Environmental Services Division

7/17/03  
Date

## Attachment 1



National Aeronautics and Space Administration  
 Ames Research Center  
 Moffett Field, California 94035-1000

TITLE:  
**Hangar 1 Storm Water Trench  
 Sediment Removal Map**

DATE:  
**7/17/03**  
 FIGURE NO:  
**1**

**ACTION MEMORANDUM FOR THE  
SAMPLING AND REMOVAL OF CONTAMINATED  
SEDIMENT FROM THE STORM WATER DRAINAGE  
TRENCHES SURROUNDING HANGAR 1**

**DATED 16 JUNE 2003**

**IS FILED AS ADMINISTRATIVE RECORD NO.  
N00296.000702**