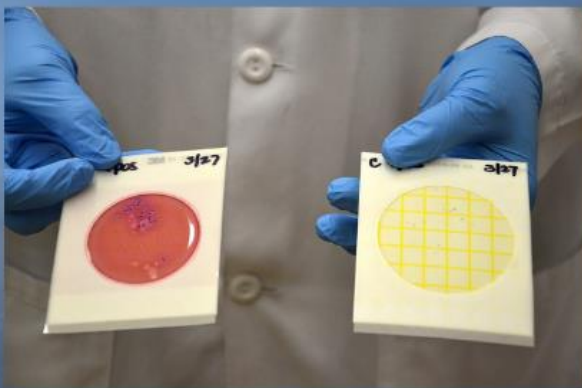
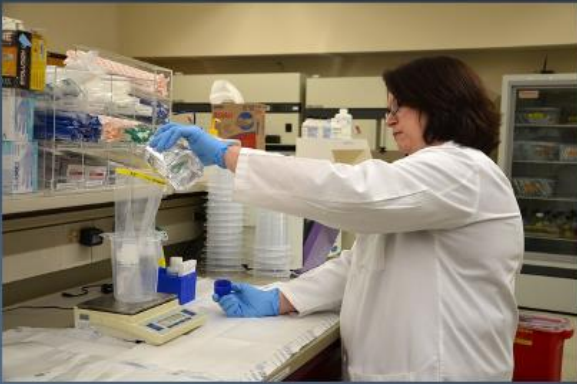


TG 361
March 2014



DoD Food Analysis and Diagnostic Laboratory

Submission Guide

Approved for Public Release
Distribution Unlimited



The use of trademarked names does not imply endorsement by the U.S. Army but is intended only to assist in the identification of a specific product.

TABLE OF CONTENTS

	Page
CHAPTER 1. GENERAL INFORMATION.....	1
1-1. PURPOSE	1
1-2. APPLICABLE REFERENCES	1
1-3. LABORATORY LOCATION AND CAPABILITIES.....	1
1-4. GENERAL SUBMISSION GUIDANCE	2
1-5. ORIGIN SAMPLING GUIDANCE	5
1-6. DESTINATION MONITORING SAMPLING GUIDANCE	9
CHAPTER 2. SUBMISSION GUIDANCE BY FEDERAL SUPPLY CLASS	10
2-1. PURPOSE	10
2-2. FOOD CATEGORY 8905: MEAT, POULTRY, FISH AND SHELLFISH.....	10
RAW PRODUCTS.....	10
PROCESSED PRODUCT	11
2-3. FOOD CATEGORY 8910: ALL DAIRY FOODS & EGGS	
FRESH MILK.....	12
PROCESSED DAIRY PRODUCTS.....	12
ICE CREAM/FROZEN YOGURT/SHERBET.....	13
CHEESES	14
EGGS AND EGG PRODUCT	14
POWDERED INFANT FORMULA	15
2-4. FOOD CATEGORY 8915: FRUITS AND VEGETABLE PRODUCTS	15
QUANTITY	15
SAMPLE SELECTION AND SHIPPING INSTRUCTIONS	15
2-5. FOOD CATEGORY 8940: SPECIAL DIETARY FOODS AND FOOD SPECIALTY PREPARATIONS	16
READY-TO-EAT PRODUCTS.....	16
READY-TO-COOK PRODUCTS	16
REMARKS.....	17
2-6. FOOD CATEGORY 8960: BEVERAGES, NON-ALCOHOLIC.....	17
BOTTLED WATER	17
OTHER WATER SAMPLES	18
ICE.....	18
OTHER NON-ALCOHOLIC BEVERAGES AND JUICES	19
MISCELLANEOUS (CANNED ITEMS AND ENVIRONMENTAL SWABS)	19
CHAPTER 3. ENVIRONMENTAL AND BIOLUMINESCENCE SAMPLES	21
3-1. PURPOSE	21
3-2. GENERAL.....	21
3-3. SUBMISSION PROCEDURES	21
3-4. SWABBING PROCEDURES.....	22
LARGE, FLAT SURFACES	22
CURVED AND IRREGULAR SURFACES.....	23
3-5. COMPLETION OF DA FORM 7539 FOR ENVIRONMENTAL SAMPLES	24
PAGE 1 OF DA FORM 7539	24
PAGE 2 OF DA FORM 7539	24
3-6. SHIPPING OF SAMPLES.....	25

	Page
3-7. DESTINATION MONITORING ENVIRONMENTAL SAMPLES.....	25
GENERAL INFORMATION	25
PROCEDURES	25
3-8. SPONGE METHOD ENVIRONMENTAL SAMPLES	27
 CHAPTER 4. FOODBORNE ILLNESS SUSPECT SAMPLES	 30
4-1. PURPOSE	30
4-2. PROCEDURES.....	30
4-3. SUSPECTED INCIDENTS OF INTENTIONAL CONTAMINATION.....	31
4-4. INFORMATION AND SAMPLES REQUIRED.....	32
 CHAPTER 5. SAMPLE COLLECTION CHAIN OF CUSTODY	 34
5-1. PURPOSE	34
5-2. PROCEDURE.....	34
5-3. PROCESS FOR SAMPLE COLLECTION AND TRANSFER TO THE LABORATORY	35
 CHAPTER 6. SAMPLE FORMS AND DOCUMENT COMPLETION	 38
6-1. PURPOSE	38
6-2. PROCEDURE.....	38
6-3. BLOCK-BY-BLOCK INSTRUCTIONS FOR COMPLETING DA FORM 7539	38
COMPLETING PAGE 1.....	38
COMPLETING PAGE 2.....	41
6-4. REMARKS.....	42
 CHAPTER 7. ANIMAL SPECIMEN SUBMISSION GUIDANCE	 45
7-1. PURPOSE	45
7-2. SPECIMENS FOR RABIES DIAGNOSIS.....	45
MATERIALS	45
COLLECTION	45
PACKAGING AND SHIPPING BIOLOGICAL SUBSTANCES, CATEGORY B.....	45
7-3. SERUM FOR SEROLOGICAL TESTING.....	46
7-4. SERUM FOR OIE-FAVN ASSAY	47
7-5. EQUINE INFECTIOUS ANEMIA (EIA)	48
7-6. WILDLIFE DISEASE SURVEYS	48
7-7. SPECIMENS FOR ISOLATION OF LEPTOSPIRA	48
7-8. DIAGNOSTIC TEST LIST – ANIMAL SPECIMENS	49
 TABLES	
1-1. PHCR–SOUTH LABORATORY INFORMATION AND CAPABILITIES.....	1
1-2. RECOMMENDED REFRIGERANT RATIOS	3
1-3. WATER TESTING GUIDELINES FOR FOOD PROTECTION AUDITS.....	8
4-1. PATHOGENIC MICROBIAL ACTION LEVELS FOR READY-TO-EAT FOODS	33
7-1. DIAGNOSTIC TEST LIST FOR ANIMAL SPECIMENS.....	50

Page

FIGURES

3-1. SWAB TEMPLATE28
 3-2. SAMPLE PAGE 2 OF DA FORM 7539, SWAB SUBMISSION.....29
 5-1. SAMPLE OF COMPLETED DA FORM 4137.....37
 6-1. SAMPLE OF COMPLETED DA FORM 7539, PAGE 1 OF 2.....43
 6-2. SAMPLE OF COMPLETED DA FORM 7539, PAGE 2 OF 2.....44
 B-1. NON-TESTABLE SAMPLE 152
 B-2. NON-TESTABLE SAMPLE 253
 B-3. NON-TESTABLE SAMPLE 354

APPENDICES

A. REFERENCES.....51
 B. PHOTOS OF SAMPLES RECEIVED IN NON-TESTABLE CONDITION.....52
 GLOSSARY55

CHAPTER 1.

GENERAL INFORMATION

1-1. Purpose.

This document provides guidance for collecting samples and animal specimens and Public Health Command Region–South (PHCR–S). When submitting samples to other DoD laboratories, consult the laboratory’s submission guide or contact its personnel prior to shipping the samples.

1-2. Applicable References.

- a. Departments of the Army, Navy, and Marine Corps. 2005. AR 40–657/NAVSUP 4355.4H/MCO P10110.31H, *Veterinary/Medical Food Safety, Quality Assurance, and Laboratory Service*.
- b. U.S. National Archives and Records Administration. 2006. *Code of Federal Regulations*. Title 49. Transportation.
- c. U.S. Army Public Health Command. 2012. Circular 40–1, *Worldwide Directory of Sanitarily Approved Food Establishments for Armed Forces Procurement*.
- d. U.S. Department of Health and Human Services. 2007. Food and Drug Administration. *Grade A Pasteurized Milk Ordinance*.

1-3. Laboratory Location and Capabilities.

Table 1-1. PHCR–South Laboratory Information and Capabilities

LABORATORY INFORMATION	AREAS SERVICED & TESTS PROVIDED
<p>For food and water samples: DoD Food Analysis and Diagnostic Laboratory Attn: Food Receiving PHCR–South 2899 Schofield Rd., Suite 2630 JBSA Ft Sam Houston, TX 78234-7583</p>	<p>–Worldwide</p> <p>–Full chemical, microbiological, and radiological (water) testing</p>
<p>DSN: 421-4604/4761 Comm: 210-295-4604/4761 FAX: 210-295-4612 Sample receiving area: 210-295-4210 FAX: 210-295-4005</p>	

Table 1–1. PHCR–South Laboratory Locations and Capabilities–Continued

LABORATORY INFORMATION	AREAS SERVICED & TESTS PROVIDED
For diagnostic samples (FAVN, MWD, etc.): DoD Food Analysis and Diagnostic Laboratory Attn: Diagnostic Receiving PHCR–South 2899 Schofield Rd., Suite 2630 JBSA Ft Sam Houston, TX 78234-7583	–Worldwide –See Table 7–1 for the list of routine diagnostic testing.
DSN: 421-4604/4761 Comm: 210-295-4604/4761 FAX: 210-295-4612 Sample receiving area: 210-295-4210 FAX: 210-295-4005	

1–4. General Submission Guidance.

- a. The samples submitted must be representative of the sample population being tested. When submitting a food or water sample in conjunction with a customer complaint about a particular item lot, send only those samples from the lot indicated by the customer complaint that exhibit the same problem characteristics. If several lots of a particular food or beverage item are found to be affected, submit a representative number of samples from each of the lots. In addition, send “normal” samples from the same lot for comparison, if available. Samples from another lot can also be submitted as “normal” for comparison.

- b. Submit requests for laboratory testing of food and water on the Department of the Army (DA) Form 7539, “Request for Veterinary Laboratory Testing & Food Sample Record,” the most current version of which can be found at <http://www.army.mil/usapa/eforms/pdf/A7539.PDF>. A complete product history and/or customer complaint history, as applicable, should be included in block 12 (Remarks) of the form for any samples submitted in support of customer complaints or investigations of possible foodborne illness. For food and water samples, include one copy of the form in each shipping container. Providing as much information to the laboratory as possible will ensure that samples are tested quickly and accurately. Refer to the appropriate section of this guide for the specific forms for submitting diagnostic blood/serum samples.

- c. When shipping refrigerated and/or perishable items, include **one** additional sample item marked “PILOT” in each shipping container to be used for determining the receipt temperature. In all refrigerated or perishable sample submissions, only one pilot sample is required for each shipping container. If only one type of product is being submitted in a shipping container, include one pilot sample that is the same as the sample(s) being submitted. If several different product types are sent in one shipping container, select one pilot sample that is the same type and size as one of the samples being submitted.

(only one pilot sample per shipping container). Pilot samples are not required for shipments of frozen products. If a product is in a dry condition or is not normally stored chilled, it does not need to be refrigerated for shipment, and an accompanying pilot sample is not required. If included, a pilot sample should be labeled "PILOT" and listed in block 9 of the DA Form 7539. Do not list it as a separate sample on page 2.

d. Pack all samples carefully to prevent damage during transit. Place individual samples into separate plastic bags (zip-lock type bags work best) to prevent spillage if a sample should leak. Serum and blood tubes must be protected from breakage. Wrap them with plastic bubble wrap, gauze pads, or other suitable protective material, and place them in a plastic bag. Do not place blood/serum tubes under or between frozen chemical ice packs for shipping; the tubes will break. Fill any empty space in the shipping container with padding (crumpled newspaper, bubble wrap, etc.) to minimize shifting of the contents during transit.

e. Ship perishable items in an insulated container with refrigerant.

(1) Maintain the correct temperature during transit by using sufficient refrigerant (Table 1–2).

Table 1–2. Recommended Refrigerant Ratios

Outside Temperature	Hours in Transit	Pounds of Sample	Pounds of Dry Ice (frozen)	Pounds of Wet Ice (chill)
Below 10°Celsius (C) or 50°Fahrenheit (F)	48	1	1.3	2.0
	24	1	0.7	1.25
10°C–27°C or 50°F–80°F	48	1	1.0	3.0
	24	1	1.0	2.0
27°C–38°C or 80°F–100°F	48	1	2.5	4.0
	24	1	1.9	3.0
Above 38°C or 100°F	48	1	5.0	Do Not Ship
	24	1	2.5	4.0

(2) Frozen gel-packs are the desired refrigerant to be used when submitting chilled samples. If using wet ice (ice cubes, flakes, etc.), do not dump it into the shipping container; place it in heavyweight plastic bags that will contain the water produced when the ice melts. **Do not** place samples in the same bag with the ice.

(3) Individual samples must be labeled with a submitter sample number, and the corresponding sample data should be listed on page 2 of the DA Form 7539. Do not cover important information such as product codes, expiration dates, universal product codes (UPCs), etc.

(4) Dry ice is required to keep frozen samples frozen during shipment. **Frozen chemical ice packs will not keep frozen items frozen during shipment to the laboratory.** Using dry ice for shipment of samples is hazardous unless proper precautions are taken, such as using gloves when handling the dry ice and not inhaling the gas fumes produced by the dry ice, especially in an enclosed area. **Do not** use dry ice to ship chilled products. Ensure that a dry ice label (provided by the carrier) is placed on the outside of the shipping container.

(5) When shipping heavy or bulky items such as large cans or gallon jars, pack the items carefully. Use extra packing material and, if necessary, ship the items in several boxes rather than in one heavy box. If the items are swollen, place them in plastic bags to contain any leakage.

(6) Ship perishable samples by express or overnight delivery. Do not ship chilled/frozen samples on a Thursday for Friday delivery. The laboratory is not staffed to receive samples on weekends. Therefore, if the samples are not delivered on Friday (for whatever reason), they will most likely not be testable when they are received the following Monday. **If samples must be shipped to arrive on a Friday, notify the laboratory well in advance.**

(7) For any sample submitted for other than routine testing, include a complete product history and/or customer complaint history on the DA Form 7539. Enter complete and accurate information in block 12 (Remarks) of the form. If there is insufficient space in the remarks section, use a continuation sheet and attach it to the form. Detailed information will enhance the laboratory's ability to test the submitted samples accurately.

(8) Notify the laboratory for all shipments except Destination Monitoring Program sample submissions. Notification can be telephonic or electronic (e-mail, FAX, etc.). Include the name of the carrier and the shipment tracking number, if known. Utilize the Lab Submissions and Sample Management database in Lotus Notes to complete and print the DA Form 7539.

(9) Shipments sent from overseas to the FADL require a U.S. Department of Agriculture (USDA) import certificate(s) for specific products, i.e. meats. If the permit or import certificate is not attached, the shipment will be delayed by U.S. Customs and Border Protection (CBP), and the samples may not be testable when received. If the shipment is not cleared by CBP, the shipping company will return it to the submitter. A submitter who does NOT have copies of the appropriate certificates should contact the FADL or acquire them on the FADL website at <http://www.vetlab.army.mil/index.html>. (Go to Documents and Forms/FSTS/Permits.) It is important to read the USDA permits because they contain specific restrictions regarding items that can and cannot be submitted.

(10) All test request forms must include the name, e-mail, and phone number of a point of contact (POC) who is familiar with the samples being submitted. The laboratory will contact the POC if additional information is needed prior to testing.

Note: If no specific testing is requested, the samples will be analyzed using the lab's current protocol for that specific food type. If the customer requires additional testing, the customer must coordinate with the FADL before shipping the samples.

1–5. Origin Sampling Guidance.

a. **Food Protection Audits.** Auditors performing Food Protection Audits should call or e-mail the laboratory as soon as they have selected samples to be submitted to the lab. This provides advanced notice so that any required special preparation can take place. The notification should include sample type, number of samples, and shipping tracking number, if available. Audit samples require a properly completed Chain of Custody form to be submitted with the samples. (Refer to Chapter 5 of this guide.) The following guidance for sample selection will be used for all items except those items specifically identified. If Command guidance has not been provided regarding sample selection, the auditors should select a minimum of three samples from three different lots or three different products. This means that a total of nine individual items (plus pilot samples, if needed) will be sent to the lab for testing. See the additional guidance below.

(1) Initial Audits. Sample only those items the producer is offering for sale to the U.S. Government. When possible, submit three different products.

(a) Ice cream.

(1) The product must be frozen and received frozen by the laboratory. The auditor will most likely not be able to sample a product being produced during the audit but rather will have to select from previous lots stored in freezers on site.

(2) When possible, select samples of high risk such as those items with supplemental ingredients added after pasteurization (fruits, nuts, etc.).

(3) For each product selected, submit 2 samples in retail containers. Each sample should be a minimum of 8 ounces (oz), 257 grams (g) (1 pint, ½ gallon). For items in individual serving containers (2-3 oz.), 4 to 6 of each item will be required for submission.

(b) Cheese.

(1) Submit 2 samples of each product.

(2) Samples should be a minimum quantity of 6 oz. each and, when possible, submitted in retail packaging. The items sampled may be taken from production during an audit or may be previously-produced items.

(c) Ready-to-cook (raw) product.

(1) These products are not routinely tested for pathogens which would be destroyed during cooking.

(2) Submit 2 samples of each product and submit a minimum quantity of 8 oz. of each.

(d) Ready-to-eat and partially-cooked products.

(1) These products may be tested for pathogens, depending upon the product.

(2) Emphasis should be placed on items that require additional handling or processing during preparation. Examples include salads/greens with added ingredients, prepared salads with meat/fish, and sandwiches with multiple components.

(3) Submit 2 samples of each product, and submit a minimum of 8 oz. of each.

Note: Sandwich testing does not include bread, so multiple samples may be required to meet the 8-oz. sample size requirement.

(e) Water.

(1) Table 1–3 is provided as a guide for auditors submitting water samples to the FADL for testing in conjunction with food protection audits.

(2) Additional requirements apply when water is being submitted for radiological testing.

(a) Submit at least the minimum quantity of water in container(s) separate from product being submitted for chemical and microbiological analysis when radiological analysis is needed.

(b) Bottled water should be submitted in original product containers. Submit all other water in sterile containers. No special preparation of the samples is required.

(c) Only one DA Form 7539 is required to be entered into the Lotus Notes Lab Submission and Sample Management database for water submission when requesting chemical/microbiological and radiological analysis. Include a printed copy of the DA Form 7539 in each shipping container.

(d) A separate DA Form 4137, "Evidence/Property Custody Document" is required when radiological testing is requested (i.e., one for chemical/microbiology samples and one for radiological samples).

(f) Catering operations.

(1) Emphasis should be placed on items that require additional handling or processing during preparation. Two 8-oz. (or larger) samples of each product selected should be submitted. Do not submit raw products that are produced elsewhere.

(2) The auditor should be prepared to collect environmental swabs during the visit, as doing so is one of the best ways to check sanitation. See Chapter 3 for additional guidance regarding swabs. **Note:** If you are an auditor expecting to collect swabs, notify the lab in advance of your visit. Special media may be required, and advanced notice will ensure it is available.

(2) Special and Directed Routine Audits.

(a) Sampling should be limited to samples related to the purpose of the audit, i.e., failure of a previous audit, nonconforming lab results, etc.

(b) If additional products are being added to the approved source listing, those items should be the ones selected for sampling.

Table 1–3. Water Testing Guidelines for Food Protection Audits

WATER TYPE		REQUIRED TESTING FREQUENCY	
		RADIOLOGICAL	MICRO/CHEM
Source Water for Bottled Water Plants	CONUS	Every 4 years by producer using external USEPA-certified or equivalent lab ¹	Annual by producer using USEPA-certified or equivalent lab ²
	OCONUS	Annual by producer using external USEPA-certified or equivalent lab and during Initial Audits by the auditor ³	Annual by producer using USEPA-certified or equivalent lab
Finished Bottled Water	CONUS	Annual by producer using external USEPA-certified or equivalent lab	Initial, Special or Directed Audits by the auditor
	OCONUS	Annual by producer using external USEPA-certified or equivalent lab	Initial, Special or Directed Audits by the auditor
In-plant/Tap Water ⁵	CONUS	Annual by producer using external USEPA-certified or equivalent lab ^{2, 4}	Annual by producer using external USEPA-certified or equivalent lab ^{2, 4}
	OCONUS	Annual by producer using external USEPA-certified or equivalent lab ⁴	Annual by producer using USEPA-certified or equivalent lab ⁴
FWRA Source (tap) water, Non-carbonated Bottled Water, and Ice	CONUS/OCONUS	N/A	Collected by assessor for micro testing by DoD reference lab
Submission Amounts for Each Sample	Radiological	Chemical	Microbial
	2 liters	1 liter	1 liter

Special Note: All samples submitted for food protection audits or FWRAs require a chain of custody form (DA Form 4137). Submit one DA Form 4137 for the micro/chemistry samples. A separate DA 4137 is required for the radiological samples since they will be submitted to the APG Laboratory Sciences Division.

¹ Source water testing is not required by the producer if results are available from the municipal water authority and meet National Primary Drinking Water Regulations (NPDWR).

² Must meet the NPDWR for community water systems. A copy of the annual water certificate from the water authority indicating compliance is sufficient documentation.

³ When submitting water for radiological testing, a separate DA Form 4137 is required for the sample (2 liters) that will be forwarded from the FADL to the APG Laboratory Sciences Division for analysis.

⁴ Water is drawn from within the facility on an annual basis and tested by a USEPA-certified or equivalent lab.

⁵ This includes commercial establishments that utilize water as a primary component of their ingredients, or that produce as a final product "ice, water, bottled water, spring water, mineral water" or similar name, or where water is added to reconstitute a product completely or partially, or as an ingredient to be declared on the label by class name.

b. **Food and Water Risk Assessment (FWRA)**. Assessors performing FWRA should call or e-mail the laboratory as soon as they have selected the samples to be submitted to the lab. Doing so provides advanced notice so that any required special preparation can take place.

(1) Sample Selection. Source (tap) water, non-carbonated bottled water, and ice require microbiological testing by the FADL, and the amount of product needed is 1000 milliliters (mL) (1 liter).

(a) Source (tap) water. Collect source water aseptically and submit it in sterile bottles.

(b) Bottled water. Submit the required amount in finished product containers.

(c) Ice.

(1) Aseptically collect both the water used to produce the ice (if possible) and the final ice product. Submit the required amount in sterile bottles.

(2) When collecting ice, estimate the melted amount by anticipating that the ice will melt to half the volume of the original product.

(2) Documentation. Include a printed copy of the DA Form 7539 in each shipping container and indicate in the form's remarks section that the product is being submitted for microbiological testing in conjunction with an FWRA.

1-6. Destination Monitoring Sample Program.

The specific requirements of the Destination Monitoring Sample Program are provided as an attachment to each Destination Monitoring Tasking in the Lab Submission and Sample Management Database in Lotus Notes. The attachment and the taskings must be accessed through the Lotus Notes web portal; they are not available via the local client application.

CHAPTER 2 SUBMISSION GUIDANCE BY FEDERAL SUPPLY CLASS

2–1. Purpose.

This chapter provides guidance for submitting specific sample types by Federal Supply Class Food Category for laboratory testing. Sample amounts are based on routine testing protocols. If additional tests are needed, contact the laboratory for additional sample requirements. If no specific testing is requested, samples will be analyzed using the lab's current protocol for that specific Food Category. The laboratory can assist in ensuring that the appropriate samples are submitted and tested to meet the customer's requirements. **The submission criteria for the Destination Monitoring Sampling Program samples may differ from those listed in this chapter.** Refer to Paragraph 1–6 for further guidance.

2–2. Federal Supply Class Food Category 8905: Meat, Poultry, Fish, and Shellfish.

a. Raw Products.

(1) Quantity.

(a) Ground beef: Submit two, 1-pound (lb) samples. Do not submit a 5- or 10-pound bulk chub; submit an aseptically collected subsample from the chub.

(b) Other ground meats (pork or poultry): Submit a minimum sample of 0.5 lbs. Do not submit a 5- or 10-lb bulk chub; submit an aseptically collected subsample from the chub.

(c) Raw seafood, including finfish, shellfish, mollusks, and crustaceans: Submit a minimum of 1.5 lbs. Two or more packages from the same lot may be combined to meet the weight requirement for the sample.

(2) Sample Selection and Shipping Instructions.

(a) If the product is received/sold chilled, submit it chilled, and include one like item in each shipping container as a pilot sample. The pilot sample should be clearly labeled "Pilot" and described in block 9 of DA Form 7539. Upon the samples' arrival to the lab, their temperature must be between 0°C and 7°C. The exception is fresh dairy products, which should arrive at a temperature between 0°C and 4.4°C.

(b) If the product is received/sold frozen, submit it frozen without a pilot sample. Ship the samples in dry ice to keep them frozen.

(c) Enclose each sample container in a separate plastic bag to contain leakage.

(d) Individual samples must be labeled with a submitter sample number that corresponds to the DA Form 7539. Do not cover important information such as product codes, expiration dates, UPCs, etc.

(e) Refer to Paragraph 2–1 for additional guidance.

(3) Remarks. Psychotropic plate count is a routinely performed test for raw meats (excluding poultry), and the results are interpreted based on the customer's criteria. There is no action limit for psychotropic plate count, and the results are used as a quality indicator only.

b. **Processed Products.**

Note: Processed products are ready-to-eat products, including sandwiches and prepared salads.

(1) Quantity. Submit at least 8 ounces (oz.) (226.8 grams (g)).

(2) Sample Selection and Shipping Instructions.

(a) If the product is received/sold chilled, submit it chilled, and include one like item as a pilot sample in each shipping container. The pilot sample should be clearly labeled "Pilot" and described in block 9 of DA Form 7539. Upon the samples' arrival to the lab, their temperature must be between 0°C and 7°C.

(b) If the product is received/sold frozen, submit it frozen without a pilot sample. Ship the samples in dry ice to keep them frozen.

(c) Enclose each sample container in a separate plastic bag to contain leakage.

(d) Individual samples must be labeled with a submitter sample number that corresponds to the DA Form 7539. Do not cover important information such as product codes, expiration dates, UPCs, etc.

(e) Refer to Paragraph 2–1 for additional guidance.

2–3. Federal Supply Class Food Category 8910: All Dairy Foods & Eggs (Including Powdered Infant Formula).

a. Fresh Milk.

(1) Quantity. Send two samples of at least 8 oz. (226.8 g) each from the same lot in their unopened original containers. If sampling from a container larger than ½ gallon, aseptically collect the sample(s) in sterile, screw-cap containers.

(2) Sample Selection and Shipping Instructions.

(a) If the product is received/sold chilled, submit it chilled and include a like item as a pilot sample. The pilot sample should be clearly labeled “Pilot” and described in block 9 of DA Form 7539. Upon the samples’ arrival to the lab, their temperature must be between 0°C and 4.4°C.

(b) Enclose each sample container in a separate plastic bag to contain leakage.

(c) Individual samples must be labeled with a submitter sample number that corresponds to the DA Form 7539. Do not cover important information such as product codes, expiration dates, UPCs, etc.

(d) Quart and half-gallon containers of fresh dairy products should be placed upright in the shipping carton. In the upright position, they will be much less likely to leak during transit. Use caution not to crush the samples by placing too much weight (ice or gel packs) on top of them.

(e) Refer to Paragraph 2–1 for additional guidance.

(3) Remarks.

(a) **Do not tape the tops of containers.**

(b) Fluid/chilled dairy samples received at the laboratory either frozen or at a temperature above 4.4°C will **not** be tested. The temperature of the pilot sample must be between 0°C and 4.4°C.

b. Processed Dairy Products.

Note: Processed dairy products include powdered or canned milk, butter, ultra-heat-treated milk, yogurt, and soft cheese.

(1) Quantity. Send a sample of at least 8 oz. (226.8 g) of the product for all items listed **except** yogurt. Send two samples of at least 8 oz. (226.8 g) each of yogurt from the same lot in their unopened original containers.

(2) Sample Selection and Shipping Instructions.

(a) Send samples in their unopened original containers, no larger than ½ gallon.

(b) Products in containers larger than ½ gallon should be aseptically sampled.

(c) Pilot Sample. If the product is sold/stored chilled, one like item is required in each shipping container. The pilot sample should be clearly labeled “Pilot” and described in block 9 of DA Form 7539. Upon the samples’ arrival to the lab, their temperature must be between 0°C and 4.4°C.

(d) Enclose each sample container in a separate plastic bag to contain leakage.

(e) Individual samples must be labeled with a submitter sample number that corresponds to the DA Form 7539. Do not cover important information such as product codes, expiration dates, UPCs, etc.

(f) Refer to Paragraph 2–1 for additional guidance.

c. **Ice Cream/Frozen Yogurt/Sherbet.**

(1) Quantity. Send a sample of at least two 8 oz. (226.8 g) containers of ice cream and frozen yogurt. For sherbet, one 8 oz. (226.8 g) container is required.

(2) Sample Selection and Shipping Instructions.

(a) Send samples in their unopened original containers, no larger than ½ gallon.

(b) When submitting ice cream novelties, include the external retail package.

(c) Products in containers larger than ½ gallon should be aseptically sampled.

(d) Enclose each sample container in a separate plastic bag to contain leakage.

(e) Individual samples must be labeled with a submitter sample number that corresponds to the DA Form 7539. Do not cover important information such as product codes, expiration dates, UPCs, etc.

(f) Since the product is sold/stored frozen, ship it with dry ice to maintain its frozen state. **SHIP FROZEN PRODUCTS IN DRY ICE ONLY.**

(g) Refer to Paragraph 2–1 for additional guidance.

(3) Remarks. A pilot sample is not required for frozen items.

d. **Cheeses.**

(1) Quantity. Send a sample of at least 8 oz. (226.8 g) of the product.

(2) Sample Selection and Shipping Instructions.

(a) Send samples of less than 1lb in their unopened original containers. Products in containers larger than 1lb should be aseptically sampled.

(b) Pilot Sample: If the product is sold/stored chilled, one like item is required for each shipping container. The pilot sample should be clearly labeled “Pilot” and described in block 9 of DA Form 7539. Upon the samples’ arrival to the lab, their temperatures must be between 0°C and 4.4°C.

(c) Enclose each sample container in a separate plastic bag to contain leakage.

(d) Individual samples must be labeled with a submitter sample number that corresponds to the DA Form 7539. Do not cover important information such as product codes, expiration dates, UPCs, etc.

(e) Refer to Paragraph 2–1 for additional guidance.

e. **Eggs and Egg Products.**

(1) Quantity. Send at least 8 oz (226.8 g) of product in its original container. If submitting raw shell eggs, send at least six units.

(2) Sample Selection and Shipping Instructions.

(a) Whole, raw eggs must be carefully wrapped and should be placed in a plastic container. Do not place eggs in zip-lock type bags.

(b) Use caution not to crush chilled products by placing too much refrigerant weight on top of them. Surround the products with ice or gel packs.

(c) Enclose each sample container in a separate plastic bag to contain leakage.

- (d) Pilot Sample. If the product is sold/stored chilled, one like item is required for each shipping container. The pilot sample should be clearly labeled "Pilot" and described in block 9 of DA Form 7539. Frozen products must be shipped frozen.
- (e) Refer to Paragraph 2–1 for additional guidance.
- f. **Powdered Infant Formula.**
- (1) Quantity. Send three containers of the same lot number.
- (2) Sample Selection and Shipping Instructions.
- (a) Do not ship powdered formula in a shipment with chilled or frozen items; ship it at room temperature.
- (b) Enclose each sample container in a separate plastic bag to contain leakage.
- (c) Refer to Paragraph 2–1 for additional guidance.

2–4. Federal Supply Class Food Category 8915: Fruits and Vegetable Products.

- a. **Quantity.** Send a sample of at least 8 oz. (226.8 g) of the product. For processed products in larger containers (more than 1 lb), send the aseptically sampled portion in a sterile container. For products in cans or jars, send three containers of the same lot number.
- b. **Sample Selection and Shipping Instructions.**
- (1) Pilot Sample. Fresh fruits and vegetables may be displayed at room temperature but are normally stored refrigerated. Therefore, these items should always be shipped chilled, and one like item is required for each shipping container. The pilot sample should be clearly labeled "Pilot" and described in block 9 of DA Form 7539.
- (2) Enclose each sample container in a separate plastic bag to contain leakage.
- (3) Individual samples must be labeled with a submitter sample number that corresponds to the DA Form 7539. Do not cover important information such as product codes, expiration dates, UPCs, etc.
- (4) Refer to Paragraph 2–1 for additional guidance.

c. **Remarks.**

- (1) Kimchee is included in this group.
- (2) The FADL does not routinely test canned products unless they are submitted as the result of a customer complaint.

2–5. Federal Supply Class Food Category 8940: Special Dietary Foods and Food Specialty Preparations

a. **Ready-to-eat Products.**

Note: This category includes prepared salads and sandwiches.

(1) Quantity. Send at least 8 oz. (226.8 g) of the products in their original containers. For products in larger containers (larger than 1 lb), send the aseptically-sampled portion in a sterile container. For canned products, submit three 6- to 8-oz. containers, if available. The FADL does not routinely test canned products unless they are submitted as the result of a customer complaint.

(2) Sample Selection and Shipping Instructions.

(a) In block 12 (Remarks) of the DA Form 7539, indicate the category into which the samples fall. For audit samples, indicate that the samples are “ready-to-eat.”

(b) Place individual samples in plastic bags to contain leakage. When packing, use caution not to crush the samples by placing too much refrigerant weight on top of them. Frozen products require dry ice for refrigeration.

(c) Pilot Sample. For chilled products, send one like item per shipping container to serve as a temperature pilot. The pilot sample should be clearly labeled “Pilot” and described in block 9 of the DA Form 7539. The receipt temperature of the pilot sample must be between 0°C and 7°C.

(d) Refer to Paragraph 2–1 for additional guidance.

b. **Ready-to-Cook Products.**

(1) Quantity. Send samples of at least 8 oz. (226.8 g) in their original containers. For products in larger containers (greater than 1 lb), send the aseptically sampled portion in a sterile container. For canned products, submit 6- to 8-oz cans or smaller containers, if available. The FADL does not routinely test cans unless they are submitted as the result of a customer complaint.

(2) Sample Selection and Shipping Instructions.

(a) In block 12 of DA Form 7539, indicate into which category the samples fall. For audit samples, indicate in block 12 (Remarks) that the samples are “ready-to-cook.”

(b) Place individual samples in plastic bags to contain leakage. When packing, use caution so as not to crush the samples by placing too much refrigerant weight on top of them. Frozen products require dry ice for refrigeration.

(c) Pilot Sample. For chilled products, send one like item per shipping container to serve as a temperature pilot. This container should be clearly labeled “Pilot” and described in block 9 of the DA Form 7539. The receipt temperature of the pilot sample must be between 0°C and 7°C.

(d) Refer to Paragraph 2–1 for additional guidance.

c. **Remarks.** Ready-to-cook products include pot pies, soups, stews, ravioli, pizza, and vegetarian burgers. Aseptic and canned items are also included in the Ready-to-Eat and Ready-to-Cook categories.

2–6. Federal Supply Class Food Category 8960, Beverages, Non-alcoholic.

a. Bottled Water.

(1) Quantity. The minimum quantities for finished products depend upon the type of testing required, as indicated below. Submit the sample in its original container.

(a) Microbiological: 1,000 milliliters (mL) (1 liter)

(b) Chemical–Metals and Anions and Pesticides: 1,000 mL (1 liter)

(c) Radiological: 2,000 mL (2 liters)

Note: See 1–5a.(e)(2) for additional requirements applicable to submitting water for radiological testing.

(2) Sample Selection and Shipping Instructions.

(a) Place individual samples in plastic bags to contain leakage. When packing, use caution so as not to crush the samples.

(b) A pilot sample is not required.

(c) Refer to Paragraph 2–1 for additional guidance.

b. Other Water Samples.

(1) Quantity. The minimum quantities of samples depend upon the type of testing required, as indicated below:

(a) Microbiological (collected aseptically): 1,000 mL (1 liter).

(b) Chemical–Metals and Anions and Pesticides: 1,000 mL (1 liter).

(c) Radiological: 2,000 mL (2 liters).

Note: See 1–5a.(e)(2) for additional requirements applicable to submitting water for radiological testing.

(3) Sample Selection and Shipping Instructions.

(a) Water samples from other sources (well, spring, etc.) being submitted for trace metal or pesticide testing must be submitted in chemically-cleaned bottles. Re-used bottles may contain high levels of soap, minerals, oils, etc., which can interfere with trace analysis. Upon request, the FADL can provide limited quantities of bottles; please provide several days' notice for such requests.

(b) Place individual samples in plastic bags to contain leakage. When packing, use caution so as not to crush the samples.

(c) A pilot sample is not required.

(d) Refer to Paragraph 2–1 for additional guidance.

c. Ice.

(1) Quantity.

(a) Continental United States (CONUS): Send at least 3 lbs of ice. Ice in bags larger than 3 lbs should be aseptically sampled.

(b) Outside the Continental United States (OCONUS): Use zip-lock type bags to collect ice samples. Allow the ice to melt; then pour it into bottles. Send two 1-liter bottles for each ice sample. Fill the bottles to only 75-80 percent of their capacity.

(2) Sample Selections and Shipping Instructions.

(a) Ice samples from overseas locations can be shipped melted, as per (b) above. Use sealed, watertight containers to ship frozen ice.

(b) Do not allow bags of ice to come in contact with dry ice. Wrap the dry ice in several layers of newspaper, and double-bag the ice samples.

(c) Samples for microbiological testing must be submitted in sterile containers.

(d) A pilot sample is not required.

(e) Refer to Paragraph 2–1 for additional guidance.

d. **Other Non-alcoholic Beverages and Juices.**

(1) Quantity.

(a) Send at least 8 oz. of a sample received as the result of a customer complaint. Send any customer-returned portion in a sealed container.

(2) Sample Selection and Shipping Instructions.

(a) Place individual samples in plastic bags to contain leakage. When packing, use caution so as not to crush the samples.

(b) Pilot Sample. For chilled products, send one like item per shipping container to serve as a temperature pilot. This container should be clearly labeled “Pilot” and described in block 9 of the DA Form 7539. The receipt temperature of the pilot sample must be between 0°C and 7°C.

(c) Refer to Paragraph 2–1 for additional guidance.

e. **Miscellaneous.**

(1) Canned Items. The FADL does not routinely test canned products unless there is a concern based on a potential foodborne illness, a customer complaint, or an apparent exterior can defect that needs to be evaluated. In these cases, the laboratory is able to determine the following:

- Can integrity, evaluated using the Zyglo Leak Test
- Interior enamel condition
- Iron/tin levels, evaluated using inductive coupled plasma–optical emission spectroscopy
- Sterility, evaluated using a commercial sterility test.

(a) Quantity. For submissions such as those resulting from customer complaints, send 6 cans or packages (3 normal and 3 abnormal). If the samples are smaller than 4 oz., ship 12 cans or packages (6 normal and 6 abnormal).

(b) Sample Selection and Shipping Instructions.

(1) Label the cans or packages as “normal” or “abnormal.” Indicate the date of packing or the code date on the laboratory request.

(2) A pilot sample is not required unless the product is normally stored chilled.

(3) Refer to Paragraph 2–1 for additional guidance.

(c) Remarks: All pertinent inspection history information associated with the product being submitted **MUST** be provided.

(2) Environmental Swabs. Sample selection and shipping instructions for environmental swabs are provided in Chapter 3.

CHAPTER 3

ENVIRONMENTAL and BIOLUMINESCENCE SAMPLES

3–1. Purpose.

This chapter provides sample submission guidance and techniques for environmental and bioluminescence swab testing.

3–2. General.

Swabbing can be an effective tool for monitoring and measuring the sanitation of food processing equipment. The significance of the bacterial swab test is only as important as the interpretation of the user's objectives and results. The APC and coliform counts can be used to measure the effectiveness of the cleaning and sanitation procedures for food processing equipment. ATP bioluminescence analyzers (luminometer) such as the LUM-T™, FireFly™, LUMGiene™, and novaLUM™ can be used to obtain readings which can then be compared with the APC and coliform counts. Bioluminescence readings should have a fairly high correlation with the APC and coliform counts. A consistently poor correlation can be an indication that the luminometer is damaged or needs calibration, personnel require further training using the instrument, etc. (LUMGiene and novaLUM are registered trademarks of Charm Sciences, Inc.; FireFly is a registered trademark of Kapriel Karagozyan.)

3–3. Submission Procedures.

a. Public Health Command District submitting units are responsible for procuring environmental swabs. One suggested source is 3M™ at <http://www.3m.com> or 1-800-328-1671. Two types of swabs are required: one for APC/coliforms and the other for *Listeria*. (3M is a registered trademark of the Minnesota Mining and Manufacturing Company.)

(1) For APC and coliform testing, order Swab-Sampler Neutralizing Buffer 10mL (3M catalog number RS96010NB).

(2) For *Listeria* testing, order Swab-Sampler DE/Neutralizing Broth 10mL (3M catalog number RS96010DE).

b. Units will be tasked to perform environmental swabbing by the Public Health Command Veterinary Services Portfolio as part of the Destination Monitoring Program or as directed by Public Health Command Districts for local sanitation program monitoring. In addition, auditors may submit swab samples in conjunction with food protection audits. Additional information regarding the Destination Monitoring Program environmental samples is provided in section 3–7.

c. The following instructions are normally used for collecting samples to be submitted for the Destination Monitoring Program; at the discretion of local leadership, they can be used for other sanitation monitoring. In a commissary, environmental swab samples are normally taken from the processing areas (deli, meat department, fish department, sushi preparation, cut fresh fruits and vegetables, etc.). There are three different suggested surface areas that should be swabbed in a commissary:

- (1) Mechanical equipment such as cutters, slicers, etc.
- (2) Food contact surfaces such as a processing counter surface, cutting board, etc.
- (3) Handheld utensils such as a knife, spoon, etc.

d. Swabs will be taken after cleaning and sanitizing have been completed, but prior to processing. If swabbing for both APC/coliform and *Listeria*, use a Swab-Sampler with Neutralizing Buffer to swab each surface area followed by a Swab-Sampler with DE/Neutralizing Broth to swab an adjacent area for *Listeria*. Use a separate swab for each surface and for each test (APC/coliform and *Listeria*).

Note: If the swab samples are collected based on the guidance in item (3) above, a total of 6 samples will be collected (3 APC/coliform and 3 *Listeria*).

e. If the personnel tasked to collect environmental samples have access to a luminometer, it is good practice to obtain readings from each area adjacent to where the APC/coliform swabs are taken. This will allow the submitting unit to compare results with the DoD FADL results. It is recommended that the luminometer results be entered in block 13 (Disposition) of the DA Form 7539.

3–4. Swabbing Procedures.

Note: See the Swab-Sampler package insert for illustrated instructions on the use of the swabs.

a. Large, flat surfaces.

- (1) The area to be swabbed is approximately 50 square centimeters (cm²). See Figure 3–1 for a 50-cm² area template that can be used on flat surfaces. Keep in mind that you can use any combination of dimensions to be swabbed, but the area must equal 50 cm². The template must be made from a cleanable material and must be wiped with alcohol or sanitizer prior to its use.

- (2) Do not allow the solution in the swab tubes to spill or leak from the tubes. The amount in the tube is pre-measured and must remain in the tube for the test to be valid.
- (3) To sample equipment surfaces, unscrew the sterile, pre-moistened swab and press out excess solution by rotating the swab against the interior wall of the tube. Remove the swab from the tube, being careful not to allow the swab to contact anything but the surface to be swabbed (aseptic technique). You must use the aseptic technique each time you remove the swab from the tube.
- (4) Hold the swab handle to create a 30-degree angle with the surface to be swabbed. Rub the swab head slowly and thoroughly over the surface area numerous times, reversing direction between successive strokes. Return the swab to the tube, mix it briefly in the solution, and press out the excess against the side of the tube.
- (5) Remove the swab from the tube, change direction 90 degrees, and rub the swab head slowly and thoroughly over the previously swabbed surface area numerous times, reversing direction between successive strokes. Return the swab to the tube, mix it briefly in the solution, and press out the excess against the side of the tube.
- (6) Remove the swab from the tube, change direction 45 degrees, and rub the swab head slowly and thoroughly over the same surface area numerous times, reversing direction between successive strokes. Return the swab to the tube, and screw the cap closed tightly.
- (7) If you are using both APC/coliform and *Listeria* swabs, perform the same steps while swabbing an adjacent area.
- (8) Label each of the swab tubes with the Submitter Sample Number from the DA Form 7539, the description of the item swabbed, and the swab type. (Example: "Deli knives–APC coliform" or "Meat Slicer–*Listeria*")

b. **Curved and irregular surfaces.**

- (1) Utensils: When swabbing utensils such as forks and knives, swab all five utensils with one swab. When swabbing five forks, swab the inner and outer tines of all of the forks with one swab. When swabbing five knives, swab both sides of the blades of all five knives with one swab.
- (2) Do not allow the solution in the swab tubes to spill or leak from them. The quantity in the tube is pre-measured and must remain in the tube for the test to be valid.

(3) To sample utensil surfaces, unscrew the sterile, pre-moistened swab and press out excess solution by rotating the swab against the interior wall of the tube. Remove the swab from the tube, being careful not to allow the swab to contact anything but the surface to be swabbed (aseptic technique). Return the swab to the tube after each utensil is swabbed. The aseptic technique must be used each time the swab is removed from the tube.

(4) After swabbing the last, or fifth, utensil, return the swab to the vial and close the lid tightly. Repeat these procedures for both APC/coliform and *Listeria* swabs.

(5) When unmeasured surface areas such as grinder screws or plates are swabbed, the results should be interpreted as the total for the entire sampling site instead of a measured area.

3–5. Completion of DA Form 7539 for Environmental Samples.

a. **Page 1 of DA Form 7539.** Complete page 1 of the DA Form 7539 in the same manner as for all other sample submissions to the FADL. If the samples are being submitted as part of Destination Monitoring, block 5 should include the name, address, and phone number of the commissary where the swabs were collected.

b. **Page 2 of DA Form 7539.** The following provides guidance on how to complete the information in block 13 on page 2. **Note:** Each swab submitted will be entered as an individual sample. See Figure 3–2 for an illustration of a completed DA Form 7539, page 2.

- **SUBMITTER SAMPLE NUMBER:** Follow the local SOP for sample numbers.
- **SAMPLE DESCRIPTION:** Enter the swab type, name of equipment swabbed, and the area swabbed. Example: APC/coliform from Slicer #1 (50 cm²)
- **BRAND NAME:** not applicable (N/A)
- **UNIVERSAL PRODUCT CODE:** N/A
- **PRODUCT CODE:** N/A
- **SAMPLE WEIGHT/VOLUME:** N/A
- **QUANTITY SUBMITTED:** 1
- **UNIT OF ISSUE:** Ea.

- **TOTAL COST:** Leave this at the default (\$0.00)
- **DISPOSITION:** Enter the luminometer reading for the area swabbed. (Example: 98 RLU)

3–6. Shipping of Samples.

- a. Contact the FADL prior to shipping environmental swab samples (except for Destination Monitoring samples) so that media preparation can take place.
- b. The samples must be shipped to the laboratory **chilled** using frozen gel packs. Place the swabs in a zip-lock style bag to contain any liquid in the event of leakage. In order to ensure valid results, do not freeze the swabs.
- c. Testing must begin within 24 hours of sampling; therefore, the swabs must be shipped overnight to the laboratory on the same day the samples are taken.
- d. Ship the swabs using an overnight courier, and ensure that they are submitted no later than Wednesday to arrive at the FADL on Thursday.
- e. Maintain the temperature of the swabs at 0°C to 4.4°C during transit.
- f. Include one unopened swab tube as a temperature pilot sample. Label the tube as “Pilot.” Only one pilot is required for each container shipped.

3–7. Destination Monitoring Environmental Samples.

a. General Information.

(1) All of the techniques and guidelines in the previous sections of this chapter apply to Destination Monitoring environmental samples.

(2) Each Public Health Command District will be tasked to perform environmental swab sampling at each commissary within its area of operation. Three pairs of swabs will be taken from commissary processing areas (deli, meat department, fish department, sushi preparation area, cut-produce area, etc.). Three separate surface areas will be swabbed.

b. Procedures.

(1) The following is an example of how to collect three pairs of swabs in each commissary for the Destination Monitoring Program:

- **Sample #1:** First APC/coliform swab taken from slicer blade.

- **Sample #2:** First *Listeria* swab taken from adjacent area of slicer blade.
- **Sample #3:** Second APC/coliform swab taken from cutting board.
- **Sample #4:** Second *Listeria* swab taken from adjacent area of cutting board.
- **Sample #5:** Third APC/ coliform swab taken from second slicer blade.
- **Sample #6:** Third *Listeria* swab taken from adjacent area of second slicer blade.

(2) See Figure 3–2 for a specific example of how to complete the DA Form 7539 based on the example given above. **Note:** All six swabs (APC and *Listeria*) are listed on ONE lab request form. The following entries in the Lotus Notes Lab Submission and Sample Management database **must** be completed for the samples to be included in the Balanced Score Card calculation for the Destination Monitoring Program:

- **Block 4: To:** Select DoD FADL.
- **Block 6: Reason for Submission:** Select “Destination Monitoring Program.”
- **Quarter:** Select the current fiscal year and quarter.
- **Block 12: Samples Submitted to Lab for Testing (Yes/No):** You must enter “Yes” after the samples have been submitted.
- **Samples Submitted to the Lab on:** Enter the actual date on which the samples were shipped to the lab.

(3) If the personnel tasked to collect environmental samples have access to a luminometer—

(a) Use a luminometer swab to swab an area adjacent to that in which the APC/coliform swab was used.

(b) Include the reading in block 13 on page 2 of the DA Form 7539, in the disposition section of the sample number that corresponds to the APC/coliform swab.

(c) Repeat this process for each surface that is swabbed.

3–8. Sponge Method Environmental Samples.

The use of swab samples is the FADL's desired method for environmental sampling. A unit desiring to use the sponge method should contact the FADL for specific guidance.

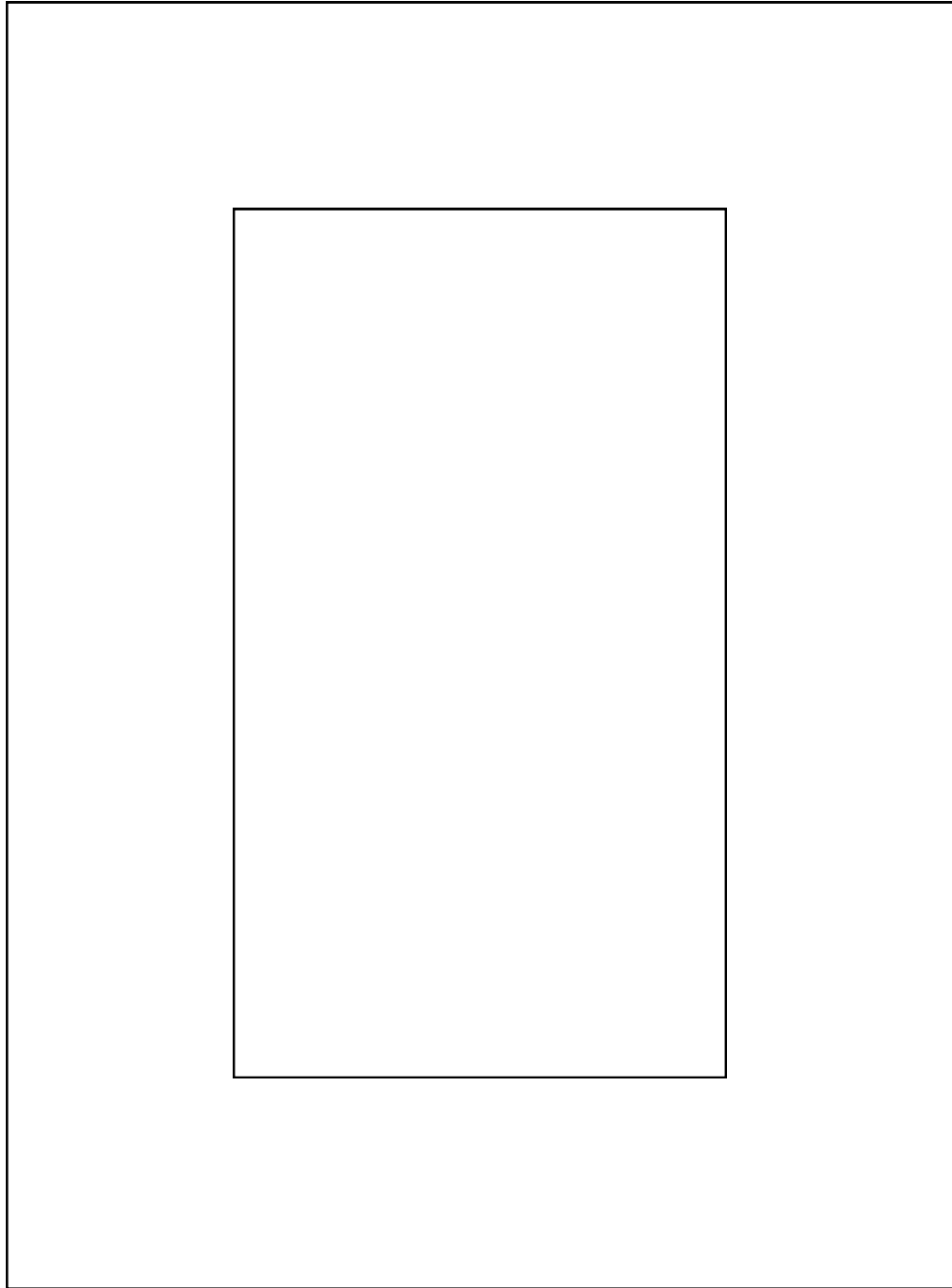


Figure 3–1. Swab Template

SAMPLE NUMBER 1	SUBMITTER SAMPLE NUMBER: Follow local SOP for Sample Numbers	FOR LABORATORY USE ONLY
BRAND NAME: N/A	SAMPLE DESCRIPTION: APC Coliform Swab from slicer #1 (50 sq cm)	SAMPLE WEIGHT/VOLUME: N/A
PRODUCT CODE: N/A	UNIVERSAL PRODUCT CODE (UPC): N/A	DISPOSITION: 110 RLU
QUANTITY SUBMITTED: 1	UNIT OF ISSUE: Each	TOTAL COST: \$0
SAMPLE NUMBER 2	SUBMITTER SAMPLE NUMBER: Follow local SOP for Sample Numbers	FOR LABORATORY USE ONLY
BRAND NAME: N/A	SAMPLE DESCRIPTION: Listeria Swab from slicer #1 (50 sq cm)	SAMPLE WEIGHT/VOLUME: N/A
PRODUCT CODE: N/A	UNIVERSAL PRODUCT CODE (UPC): N/A	DISPOSITION: N/A
QUANTITY SUBMITTED: 1	UNIT OF ISSUE: Each	TOTAL COST: \$0
SAMPLE NUMBER 3	SUBMITTER SAMPLE NUMBER: Follow local SOP for Sample Numbers	FOR LABORATORY USE ONLY
BRAND NAME: N/A	SAMPLE DESCRIPTION: APC Coliform Swab from cutting board (50 sq cm)	SAMPLE WEIGHT/VOLUME: N/A
PRODUCT CODE: N/A	UNIVERSAL PRODUCT CODE (UPC): N/A	DISPOSITION: 200 RLU
QUANTITY SUBMITTED: 1	UNIT OF ISSUE: Each	TOTAL COST: \$0
SAMPLE NUMBER 4	SUBMITTER SAMPLE NUMBER: Follow local SOP for Sample Numbers	FOR LABORATORY USE ONLY
BRAND NAME: N/A	SAMPLE DESCRIPTION: Listeria Swab from cutting board (50 sq cm)	SAMPLE WEIGHT/VOLUME: N/A
PRODUCT CODE: N/A	UNIVERSAL PRODUCT CODE (UPC): N/A	DISPOSITION: N/A
QUANTITY SUBMITTED: 1	UNIT OF ISSUE: Each	TOTAL COST: \$0
SAMPLE NUMBER 5	SUBMITTER SAMPLE NUMBER: Follow local SOP for Sample Numbers	FOR LABORATORY USE ONLY
BRAND NAME: N/A	SAMPLE DESCRIPTION: APC Coliform Swab taken from slicer #2 (50 sq cm)	SAMPLE WEIGHT/VOLUME: N/A
PRODUCT CODE: N/A	UNIVERSAL PRODUCT CODE (UPC): N/A	DISPOSITION: 150 RLU
QUANTITY SUBMITTED: 1	UNIT OF ISSUE: Each	TOTAL COST: \$0
SAMPLE NUMBER 6	SUBMITTER SAMPLE NUMBER: Follow local SOP for Sample Numbers	FOR LABORATORY USE ONLY
BRAND NAME: N/A	SAMPLE DESCRIPTION: Listerial Swab from slicer #2 (50 sq cm)	SAMPLE WEIGHT/VOLUME: N/A
PRODUCT CODE: N/A	UNIVERSAL PRODUCT CODE (UPC): N/A	DISPOSITION: N/A
QUANTITY SUBMITTED: 1	UNIT OF ISSUE: Each	TOTAL COST: \$0

Figure 3–2. Sample Page 2 of DA Form 7539, Swab Submission

CHAPTER 4

FOODBORNE ILLNESS SUSPECT SAMPLES

4-1. Purpose.

A foodborne illness is an infection or intoxication caused by a bacterial, viral, parasitic, or chemical agent transmitted by a food. This definition primarily includes outbreaks (two or more cases from a common source), but data on single cases of enteric pathogens (*Salmonella* spp., *Campylobacter* spp., and *E. coli* O157:H7), which are primarily foodborne, are also included. This chapter provides guidance for submitting foodborne illness suspect samples for laboratory testing. The only laboratory that is authorized to perform official testing of foodborne illness suspect samples is the DoD FADL at JBSA Fort Sam Houston, TX.

4-2. Procedures.

- a. The submission of foodborne illness suspect sample submission **must** be coordinated with the local command's Preventive Medicine unit. Contact the FADL telephonically prior to shipping any suspected food poisoning/foodborne illness samples. The laboratory will provide instructions on shipping the food samples, e.g., shipping them chilled or frozen.
- b. Submit all requests for food poisoning/foodborne illness testing on a DA Form 7539, and include a completed DA Form 4137, "Evidence/Property Custody Document." (See Chapter 5 for details on completing the form.)
- c. Submit food which is epidemically implicated (i.e., samples of the actual food eaten, if available). Also submit samples of the implicated food items that were not prepared/served (same brand/lot number, etc. as the implicated items consumed), if available. The clinical signs, symptoms, the incubation period, and other pertinent facts will determine the specific laboratory tests and the order in which they will be conducted.
- d. All samples submitted in conjunction with a foodborne illness may be included on a single form; however, applicable producer or manufacturer information will be provided as a separate attachment and sent with the samples.

4–3. Suspected Incidents of Intentional Contamination.

Inspectors will use the following personal protective measures as they encounter suspected incidents of intentional product contamination:

- a. Take immediate action while remaining calm and using a reasonable, common sense approach. Immediately alert the facility manager, the chain of command and/or Hazardous Material (HAZMAT) personnel as outlined in local standing operating procedures (SOPs).
- b. Do not open the product package or master container. Inspectors will not taste, touch, smell, empty, shake, or transport the suspected product. Following this procedure will eliminate the possibility of needless exposure and unintentional spread.
- c. Leave the room; close the door, if applicable; and secure the area to prevent access until investigating officials arrive at the scene.
- d. Wash hands with soap and water to prevent the potential spread of any contaminant that may have been present. The most effective handwashing process is to repeatedly lather and rinse hands rather than spending the same amount of time scrubbing with a single lathering. After hands have been cleansed thoroughly and rinsed free of soap, apply a hand sanitizer. Shower with soap and water as soon as possible. Do not use bleach or other disinfectant that may be harmful to the skin. Prior to showering, place clothes in a plastic bag or other sealable container. Give the sealed clothing to the emergency responders for proper handling.
- e. List all personnel who were in the area when the suspicious item was received. This information may be needed by authorities.
- f. Formally report the incident and possibility of exposure through the chain of command, to include commissary directors, Troop Issue Subsistence Activity (TISA) managers, and/or other appropriate management personnel.
- g. If there is a question of room or air handling system contamination through the spread of aerosol, use the following guidelines:
 - (1) Turn off room fans or ventilation units in the area, or have them turned off, if possible. Shut down the air handling system for entire building, if possible. Coordinate these actions with the building's security manager as needed.
 - (2) Leave the area, close the door, and secure the area.

(3) List all personnel who were in the area when the suspicious item was received. This information may be useful to authorities.

(4) Report all incidents through your chain of command.

4-4. Information and Samples Required.

a. The following food attack rate information (items 1–9 below) is **extremely** important and is required so that FADL personnel can make appropriate decisions regarding the handling of the food samples. The submitting unit will collect as much of this information as possible and include it on the DA Form 7539, block 12. An added narrative attachment can be included if all of the information will not fit into block 6. Food attack rate information for each food eaten or each suspect meal(s) includes the—

(1) Total number of people who consumed the suspect meal(s) or food.

(2) Number of people who consumed the suspect meal(s) or food and became ill.

(3) Number of people who consumed the suspect meal(s) or food and did not become ill.

Note: Foods eaten up to 72 hours prior to the appearance of symptoms should be considered.

(4) Predominant symptoms, such as nausea, vomiting, diarrhea, fever, chills, headache, and dizziness.

(5) Incubation period, i.e., the time elapsed from ingestion to the appearance of symptoms.

(6) Duration of symptoms.

(7) Physician's diagnosis and any medical treatment given.

(8) Laboratory results of clinical specimen cultures, i.e., stool and/or vomit.

(9) Reports of any suspected food mishandling.

b. Ship the suspected samples (bulk foods, food in open containers, and clinical specimens) in separate sterile containers. Submit a minimum of 100 g of each sample, or ship the entire specimen if it measures less than 100 g.

c. For operational rations such as Meals, Ready-to-Eat; Unitized Group Rations, etc., submit any leftover suspected components and six unopened components of the same meal and sub-lot.

d. Table 4–1 lists the action levels for the various pathogenic microbiological organisms and toxins that may be found in RTE foods.

Table 4–1. Pathogenic Microbial Action Levels For Ready-To-Eat Foods

ORGANISM/TOXIN	ACTION LEVEL
<i>Bacillus cereus</i>	1,000 CFU/g or mL
<i>Bacillus cereus</i> Diarrheal or Emetic Toxin	Zero Tolerance
<i>Campylobacter jejuni</i>	Zero Tolerance
<i>Clostridium botulinum</i> (Spores or Vegetative Cells)	Zero Tolerance
<i>Clostridium botulinum</i> Neurotoxin	Zero Tolerance
<i>Clostridium perfringens</i>	1,000 CFU/g or mL
Enterohemorrhagic Escherichia coli (EHEC) O157:H7	Zero Tolerance
<i>Listeria monocytogenes</i>	Zero Tolerance
<i>Salmonella</i> species	Zero Tolerance
<i>Shigella</i> species	Zero Tolerance
<i>Staphylococcus aureus</i>	1,000 CFU/g or mL
Staphylococcal Enterotoxin	Zero Tolerance
<i>Vibrio cholera</i> (Serogroups O1 and Non-O1)	Zero Tolerance
<i>Vibrio parahaemolyticus</i>	1,000 CFU/g or mL
<i>Vibrio vulnificus</i>	Zero Tolerance
<i>Yersinia enterocolitica</i>	Zero Tolerance

CHAPTER 5

SAMPLE COLLECTION CHAIN OF CUSTODY

5-1. Purpose.

This chapter establishes a procedure that provides accountability and documentation of sample integrity from the time of collection until delivery at the laboratory.

5-2. Procedure.

- a. A DA Form 4137 is required to establish a chain of custody for food samples that are collected for the following reasons:
 - (1) Suspected intentional contamination;
 - (2) Criminal investigation;
 - (3) Associated with a food protection audit or FWRA;
 - (4) Associated with a foodborne illness investigation or foreign material determination; or
 - (5) Analysis in accordance with a contract that specifies that testing must be completed at the DoD FADL.
- b. A sample is in “custody” if all three of the following apply:
 - (1) The sample is in one’s actual physical possession or within line of sight.
 - (2) The sample is kept in a secured area, restricted to authorized personnel only.
 - (3) The sample is inside a sealed, tamper-evident container.
- c. Procedures for sample handling must be followed whenever samples are collected, stored, or transferred. An accurate written record used to trace the possession and handling of samples from the moment of collection through disposal is required. The procedures defined here represent a means to establish a reasonable probability that—
 - (1) The chain of custody record is defensible if the necessity arises.

(2) The collected sample is identified to ensure it is the same sample that is analyzed at the laboratory.

(3) The sample is handled to ensure it is not altered, changed, or otherwise compromised from the time of its collection to its analysis at the laboratory.

5–3. Process for Sample Collection and Transfer to the Laboratory.

a. The sample collector is responsible for ensuring that proper chain of custody requirements are met during the collection of food and water samples.

b. All products, including intact cans or jars, should be placed in separate tamper-evident plastic bags. The bags will be sealed and signed. Samples that are too large to fit in a tamper-evident bag (such as large jars/cans) should be sealed with tamper-evident tape at the juncture of the lid and container. On container types such as bagged salads, sandwiches, milk cartons, etc., place the tamper-evident seal at the point where the product container would normally be opened, so that any tampering with the container would be evident. Tamper-evident seals should tear or show evidence of tampering if removed from the container.

c. Samples will be collected within sight of a representative from the facility where the sample is being taken, i.e., dining facility manager, quality assurance manager of a commercial establishment, military police, etc.

d. A completed DA Form 7539, “Request for Veterinary Laboratory Testing & Food Sample Record,” must be included with the sample. See Chapter 6 for form completion guidance.

e. When transferring “possession” of the sample container to the next party, the sample collector will sign and record the date of transfer in the Chain of Custody section of the DA Form 4137. One form will be completed for each sample transportation container. The original chain of custody form(s) must be forwarded to the laboratory with the sample container. The most current version of the DA Form 4137 can be found at: <http://armypubs.army.mil/eforms/pdf/A4137.PDF>

f. Unless hand-carried or sent by registered mail, transportation containers must be shipped to the laboratory via common carrier, such as United Parcel Service™ (UPS™) or Federal Express™ (FedEx™). Common carriers should abide by U.S. Department of Transportation regulations governing the shipment of chain of custody samples. When the container or containers arrive at the laboratory, the chain of custody form (DA Form 4137) is relinquished to the laboratory. Upon receipt of

a chain of custody sample, laboratory receiving personnel will sign the “received by” portion of the DA Form 4137 and will inspect the sample for evidence of tampering during transit. Observed deficiencies or custody lapses will be annotated on the DA Form 4137. (UPS is a registered trademark of United Parcel Service, Inc.; FedEx is a registered trademark of Federal Express Corporation.)

EVIDENCE/PROPERTY CUSTODY DOCUMENT			MPR/CID SEQUENCE NUMBER	
For use of this form see AR 190-45 and AR 198-5; the proponent agency is US Army Criminal Investigation Command			CRD REPORT/CID ROI NUMBER	
RECEIVING ACTIVITY Fort McClellan Food Inspection Branch		LOCATION Fort McClellan, AL 36205-5000		
NAME, GRADE AND TITLE OF PERSON FROM WHOM RECEIVED <input checked="" type="checkbox"/> OWNER James Smith Quality Assurance Director <input type="checkbox"/> OTHER Alpha Meat Company		ADDRESS (Include Zip Code) N/A		
LOCATION FROM WHERE OBTAINED Alpha Meat Company (Processing Floor) 123 Alpha Avenue Birmingham, AL 36222		REASON OBTAINED Special Audit Sampling	TIME/DATE OBTAINED 1700-1830 25 Oct 06	
ITEM NO.	QUANTITY	DESCRIPTION OF ARTICLES (Include model, serial number, condition and unusual marks or scratches)		
1	1	Smokey Joe's Sausage Links, 1LB Package, Lot #6298, DOP 25 Oct 06, Lab Sample #BR649		
2	1	Alpha Meat Smoked Turkey Legs, 1 Bag - vacuum packed, 4 ea, 28oz, Lot #6927, Exp Date 15 Nov 06, Lab Sample #BR650		
3	1	AlphaZulu Sausage Chubs, 1-16oz Chub, Lot #6298-A, DOP 25 Oct 06, Lab Sample #BR651		
CHAIN OF CUSTODY				
ITEM NO.	DATE	RELEASED BY	RECEIVED BY	PURPOSE OF CHANGE OF CUSTODY
1-3	25 Oct 06	SIGNATURE	SIGNATURE	Receipt of Special Audit samples at conclusion of audit.
		NAME, GRADE OR TITLE James Smith, QA Director	NAME, GRADE OR TITLE Mark Johnson, CPT, VC	
1-3	25 Oct 06	SIGNATURE	SIGNATURE	Mailing samples to FADL at Fort Sam Houston, TX for testing. "SCRNI" (Sealed container received contents not inventoried)
		NAME, GRADE OR TITLE Mark Johnson, CPT, VC	NAME, GRADE OR TITLE John Doe, FedEx	
1-3	26 Oct 06	SIGNATURE	SIGNATURE	Samples received at the FADL for testing.
		NAME, GRADE OR TITLE Silly Billy, FedEx	NAME, GRADE OR TITLE Jim Follows, FADL Technician	
1-3	26 Oct 06	SIGNATURE	SIGNATURE	Conduct sample testing.
		NAME, GRADE OR TITLE Jim Follows, FADL Technician	NAME, GRADE OR TITLE Michael Mann, FADL Micro Tech	
		SIGNATURE	SIGNATURE	
		NAME, GRADE OR TITLE	NAME, GRADE OR TITLE	

DA FORM 4137, 1 JUL 1976 Replaces DA FORM 4137, 1 Aug 74 and DA FORM 4137-R, Privacy Act Statement 26 Sep 75 Which are Obsolete

APD PE v1.00

LOCATION _____ DOCUMENT NUMBER _____

Figure 5-1. Sample of Completed DA Form 4137

CHAPTER 6

SAMPLE FORMS AND DOCUMENT COMPLETION

6-1. Purpose.

This chapter provides guidance on the proper completion of DA Form 7539, the form used for laboratory sample submissions.

6-2. Procedure.

a. A separate DA Form 7539 must be completed for each different commercial source or U.S. Government facility that originally produced or subsequently processed the sample, i.e., each different manufacturer, packer, etc. **Note:** When submitting more than six samples, use additional copies of page 2 as necessary.

b. The only exception to this procedure is samples that are submitted in association with a suspected foodborne illness. (See Chapter 4.)

6-3. Block-by-block Instructions for Completing DA Form 7539.

Note: Pull-down menus apply to completing this form in the Laboratory Submission database in Lotus Notes. When form is completed by other means, the required information is entered by typing or printing the appropriate data.

a. Completing page 1.

(1) Block 1: Enter the complete name and address of the submitting unit. Select the location from the pull-down menu. The Inspection Responsibility Code (IRC) will fill in automatically.

(2) Block 2: Enter the name, rank, telephone number, and email address for a point of contact (POC). The POC will be the individual whom the laboratory can contact directly if additional information about the submitted samples is required. Upon completion of block 1, the Station Identification Number will fill in automatically.

(3) Block 3: Enter a control number following the guidance established by local policy. A control number will be assigned to each form, and a log of the forms will be maintained in order to ensure sample and form accountability.

(4) Block 4: Select the laboratory to which the samples are being submitted.

(5) Block 5: Provide a complete company name, address, and telephone number for the company that produced or further processed the sample. Use the following guidance when determining the producer or manufacturer and when expressing the company name, address, and plant code.

(a) Determining the Producer/Manufacturer. Examples:

(1) Potato salad is produced in bulk 5-lb containers by the ABC Salad Company and shipped to the Defense Commissary Agency (DeCA) commissary. If the inspector opens the new 5-lb container and aseptically obtains a sample, the ABC Salad Company would be listed as the producer, and the processing plant's information would be entered.

(2) If the potato salad sample is collected from a container that the deli workers have already opened and used to repack for sale, the commissary would be listed as the producer/manufacturer because its personnel repacked the item.

(3) If a meat market obtains ground beef in 5-lb chubs from the packing plant, and a sample is taken directly from the chub, the company that packed the product into the chub would be listed as the producer/manufacturer. If the product has been reground by DeCA meat market personnel, the commissary would be listed as the producer/manufacturer.

(4) If a sandwich or cheeseburger is prepared by the operator of a snack bar at the bowling alley or by an employee at the Army and Air Force Exchange Service (AAFES) Burger KingSM, that location would be entered as the production facility. "Bowling Alley Snack Bar" or "AAFES Burger King" is the manufacturer regardless of where the final product ingredients originated. (Burger King is a registered service mark of Burger King Brands, Inc.)

(b) Expressing the Producer/Manufacturer Name, Address, and Plant Code:

(1) For items produced at establishments in the United States, provide the name, address (street, city, state, and zip code), and telephone number for the production plant of **origin**. Include any plant codes found on the product or packing case (Interstate Milk Shippers List (IMSL), U.S Department of Agriculture (USDA), etc.) in the next section of the block. If the supplier is listed in USAPHC Circular 40-1, include the VC number assigned to that supplier. The VC number is beside the name of the establishment, which can be found at the top of each approved source

document in the Approved Sources Directory. This number can also be found in block 1 of each Sanitation Audit Report.

Note: Use caution when providing addresses from product labels. In many cases, the address listed may be for a corporate office and not for the actual plant in which the product was processed. It is wise to check the product master container (shipping case) in order to compare the address on the case to the address on the package. If the addresses are different, ensure that the address for the processing plant, not the corporate office, is entered on the form.

(2) For items produced at foreign establishments, provide the name of the country and processing plant address in which the sample was produced. If the name and address of the plant are not available, indicate so and then enter the name and address of the sample's importer, exporter, or distributor.

(3) For items produced on a military installation, enter the name, address, and telephone number for the particular establishment that produced the sample. Example: "AAFES Anthony's PizzaSM, 401 Star Road, Aberdeen Proving Ground, MD; 410-XXX-XXXX." (Anthony's Pizza is a registered service mark of the Army and Air Force Exchange Service.)

(6) Block 6: Using the pull-down menu, select the reason that the samples are being submitted for testing.

(7) Block 7: From the pull-down menu, select the type of facility from which the sample was taken. When "other" is selected, a full explanation will be entered in block 12.

(8) Block 8: Use the pull-down menu to select the date that the sample was collected.

(9) Block 9: Using the pull-down menu, select the condition in which the sample was shipped. When a pilot sample is included (for chilled items only), enter a description of the pilot sample. Do not repeat the pilot information as a "sample" on page 2.

(10) Block 10: This block is left blank.

(11) Block 11: This block is left blank.

(12) Block 12: Use this block to provide any relevant information that does not appear elsewhere on the form. When a sample is being submitted in conjunction with a foodborne illness investigation, contact the laboratory for specific guidance prior to submission. Use block 12 to

indicate any specialized or specific testing required on the samples. If additional space is required, use a separate sheet of paper. After the samples have actually been shipped, and only then, select “Yes” from the pull-down menu that appears immediately below the remarks section.

b. **Completing page 2.** In Lotus Notes, select the “New Lab Sample” tab at the top of the page. Repeat for each additional sample.

(1) Block 13: Enter relevant, complete information for each sample, including—

(a) Submitter Sample Number. Beginning with number 1, enter the sample number in this area in accordance with the local SOP.

(b) Sample Description. Enter the complete product description, to include its common name, type, and classification. Examples: “milk, chocolate, 2%,” “yogurt, low-fat, cherry,” “apple, red delicious,” or “ground beef, 85% lean.”

(c) Brand Name. Enter the product’s specific brand name, as applicable. Example: Hormel™ (Hormel is a registered trademark of Hormel Foods, LLC.)

(d) UPC. Enter the UPC found on the product label or produce shelf tag. This code is also known as the “bar code.” It is the label scanned or entered by the cashier at the register when the product is purchased.

(e) Product Code. Enter any lot number, “use by” or expiration date, and other lot code information exactly as it appears on the product label/container.

Note: The next three entries are related to each other. See the example in (h).

(f) Sample Weight/Volume. Enter the weight or volume of one item as it appears on the product label or package.

(g) Quantity Submitted. Enter the number of individual items submitted as this one sample.

(h) Unit of Issue. Enter the unit of issue or sale. The unit of issue is determined by how the item is charged upon being issued or sold, such as “pound,” “bag,” “jar,” “can,” or “box.” Example: Enter the sample weight of two 3.5-oz. sandwiches submitted as one sample as “3.5,” the quantity submitted as “2,” and the unit of issue as “each.”

(i) Total Cost: This block is left blank.

(j) Disposition: This block is left blank.

6-4. Remarks.

a. It is important to use a separate DA Form 7539 for each origin plant or Government production site. This ensures that result reports contain information that is unique to each specific source and that the laboratory can track all samples that may require medical hold actions, market withdrawals, or recalls. When submitting more than six samples from the same producer or manufacturer, use as many additional copies of page 2 as necessary.

b. Do not complete the gray section on page 1 marked "For Laboratory Use Only." The lab will complete the information in this section. When the tracking number is available from the inspector, enter it in block 12.

c. Do not enter information in the "Results" portion at the bottom of page 1. The completed laboratory result reports will be attached to this area.

REQUEST FOR VETERINARY LABORATORY TESTING & FOOD SAMPLE RECORD		
For use of this form see AR 40-657; the proponent agency is OTSG.		
1. FROM Ft Sam Houston Branch ATTN MCVS GPT-F 2332 Harney Road Bldg 2635 Fort Sam Houston, TX 78234-1303 IRC: 1323	2. POINT OF CONTACT: Name: SFC Joe Snuffy Phone: 210-295-0000 Station Identification Number: 1311-00	3. CONTROL NUMBER: 4. TO: VETCOM FADL
5. PRODUCER/MANUFACTURER Name and Address: Moo Cow Dairy 7554 U.S. Highway 49 Hattiesburg MS, 39402 Phone: (601) 268 2584		Plant code (IMSL, USDA, etc.) Plant # 28-1804 (IMLS) (VC #)
6. REASON FOR SUBMISSION: Destination monitoring program		
7. SAMPLES SELECTED FROM: DeCA	8. DATE SAMPLE(S) SELECTED: 10/16/2006 thru 10/16/2006 9. SHIPMENT TEMPERATURE CONDITIONS: Chilled - include 1 temp pilot per shipping container; describe below Pilot Description: 2% Milk, half gallon	
10. INSPECTOR'S SIGNATURE		11. ACCOUNTABLE OFFICER'S SIGNATURE
12. REMARKS (use additional paper if necessary) Date of Pasteurization is 13 October 2006 Samples Submitted to the Lab for Testing (Yes/No): Yes		
FOR LABORATORY USE ONLY		
SHIPPING CARRIER TRACKING #:	LABORATORY REPORT NUMBER	RECEIVED:
RECEIPT TEMPERATURE:	SAMPLE(S) FOR ANALYSIS BY: <input type="checkbox"/> Chemistry <input type="checkbox"/> Microbiology <input type="checkbox"/> Other	

DA FORM 7539, FEB 2005
Page 1 of 2

Completed Results Attached: No
Results:

Figure 6–1. Sample of Completed DA Form 7539, page 1 of 2

13. SAMPLE INFORMATION (Complete as much information as is available) LAB Report Number:			
SAMPLE NUMBER 1		FOR LABORATORY USE ONLY	
Submitter Sample No. 1	Sample Description Milk, 2%	Brand Name Moo Cow	
Universal Product Code (UPC) 96966 51300	Product Code OCT 28 J 07:07 28-1804	Sample Weight/Volume Half Gallon	
Quantity Submitted 1	Unit of Issue Each	Total Cost	Disposition
SAMPLE NUMBER 2		FOR LABORATORY USE ONLY	
Submitter Sample No.	Sample Description	Brand Name	
Universal Product Code (UPC)	Product Code	Sample Weight/Volume	
Quantity Submitted	Unit of Issue	Total Cost	Disposition
SAMPLE NUMBER 3		FOR LABORATORY USE ONLY	
Submitter Sample No.	Sample Description	Brand Name	
Universal Product Code (UPC)	Product Code	Sample Weight/Volume	
Quantity Submitted	Unit of Issue	Total Cost	Disposition
SAMPLE NUMBER 4		FOR LABORATORY USE ONLY	
Submitter Sample No.	Sample Description	Brand Name	
Universal Product Code (UPC)	Product Code	Sample Weight/Volume	
Quantity Submitted	Unit of Issue	Total Cost	Disposition
SAMPLE NUMBER 5		FOR LABORATORY USE ONLY	
Submitter Sample No.	Sample Description	Brand Name	
Universal Product Code (UPC)	Product Code	Sample Weight/Volume	
Quantity Submitted	Unit of Issue	Total Cost	Disposition
SAMPLE NUMBER 6		FOR LABORATORY USE ONLY	
Submitter Sample No.	Sample Description	Brand Name	
Universal Product Code (UPC)	Product Code	Sample Weight/Volume	
Quantity Submitted	Unit of Issue	Total Cost	Disposition

For additional samples, use additional copies of Page 2.

DA FORM 7539, FEB 2005
Page 2 of 2

Figure 6–2. Sample of Completed DA Form 7539, page 2 of 2

CHAPTER 7

ANIMAL DIAGNOSTIC SPECIMEN SUBMISSION GUIDANCE

7-1. Purpose.

This chapter provides guidance for submitting animal specimens for diagnostic testing.

7-2. Specimens for Rabies Diagnosis.

a. Materials.

(1) Use an insulated Styrofoam shipping container with a cardboard box exterior in excellent condition. Do not use boxes that are worn, torn, or water-marked.

(2) Use plastic mailing tape; address labels; a UN3373 “Biological Substance, Category B” label; a VETLAB Form D-102, “Rabies Submission;” two heavy plastic bags (zip-lock); gel packs; and packing material such as newspaper.

b. Collection.

(1) A wild or stray animal that bites a human or another animal must always be euthanized immediately, and its head must be sent to the laboratory for examination. The entire carcass of small animals such as bats should be sent to the laboratory.

(2) The animal head or small carcass must be fresh. If brain tissue is decomposed or rotten, the analysis may be inconclusive.

(3) Caged rodent pets (hamsters, gerbils, guinea pigs, mice) should not be submitted for rabies testing.

c. Packaging and Shipping Biological Substances, Category B.

(1) The guidance for packaging and shipping rabies specimens to the laboratory for diagnostic testing was developed to comply with the recently revised regulations in Title 49 of the Code of Federal Regulations (49 CFR), parts 171–173. The new, correct shipping term is “Biological Substance, Category B.” The diamond-shaped “UN-3373” label must be affixed to the shipping box.

- (2) Place the specimen in a primary heavy plastic bag, seal it; then place it in a second heavy plastic bag, and seal it.
- (3) Pack the specimen in an insulated shipping container with sufficient packing material to fill the container, and with sufficient gel packs to maintain the specimen cold until it arrives at the laboratory. It is imperative that no liquid leaks from the shipping container during shipment. Dry ice is not to be used as a refrigerant, per warnings from the Commercial Airline Carriers Association.
- (4) Ship by overnight or next day delivery via FedEx, DHL™, or UPS. Do not use the U.S. Postal Service (USPS) because it does not deliver directly to the laboratory. (DHL is a registered trademark of Deutsche Post AG Corporation.)
- (5) Complete the submitter's section of VETLAB Form D-102, Rabies Submission. Place the form in an envelope or plastic bag and affix it to the Styrofoam lid between the inner and outer containers.
- (6) Animal heads submitted for the diagnosis of rabies infection are considered "Biological Substance, Category B" under 49 CFR 171.134 for transportation purposes.
- (7) If shipping a specimen from OCONUS, contact the laboratory by calling 210-295-4604, FAX 210-295-4612 or emailing to rabies.favn@amedd.army.mil with the shipping information to enable laboratory personnel to assist in tracking the shipment.

7-3. Serum for Serological Testing.

- a. Submit serum samples with their appropriate test request form:
 - (1) FADL Form D-127, MWD Banked Annual Serum Submission
 - (2) FADL Form D-128, MWD Serology Test Request
 - (3) FADL Form D-128TSA, TSA Dog Serology Test Request, Form D-128
 - (4) FADL Form D-128LAFB, MWD Lackland Test Request
- b. Collect blood samples in a serum separation or red-top tube, and allow the blood to clot. Spin down the serum and transfer it to a polypropylene screw-cap vial or tube.

c. Label each serum tube with the animal's identification data. Data on the tubes should correspond with the data on the laboratory test request form. Ensure the form includes the sender's complete return address, telephone number, and email address.

d. Shipment:

(1) Ship the sera as chilled specimens the same day they were collected, or freeze the sera for later shipment.

(2) Pack the serum tubes to prevent breakage. Wrap them in paper towels, bubble wrap, etc., and place them in a plastic, zip-lock bag. Place the samples in an insulated shipping container with sufficient frozen gel pack refrigerant to keep them cold during transit. Sera must be shipped in watertight primary and secondary containers. If the specimens are shipped for overnight or next-day delivery, the refrigerants or gel packs are not required.

(3) Ship the samples by a carrier that will deliver them within 24-72 hours, e.g., FedEx, UPS, or DHL. The USPS does **not** deliver to the laboratory.

7-4. Serum for World Organization for Animal Health Fluorescent Antibody Viral Neutralization (OIE-FAVN) Assay.

a. Use FADL Form D-132A, "Request for OIE-FAVN Rabies Antibody Test," to submit samples from privately owned animals with DoD beneficiary status. A veterinarian's original signature is required. The quarantine stations will reject the application if it includes a stamped or electronically created signature.

b. Submit approximately 0.5 to 1.0 mL of clear serum in an unbreakable tube or cryovial, and place it in a zip-lock bag. Place the form and payment in separate zip-lock bags to prevent water damage.

c. Pack the serum tubes to prevent breakage. Wrap them in paper towels, bubble wrap, etc., and place them in a plastic zip-lock bag. Place the samples in an insulated shipping container with a sufficient amount of frozen gel pack refrigerant to keep them cold during transit. Sera must be shipped in watertight primary and secondary containers. If the specimens are shipped for overnight or next-day delivery, the refrigerants or gel packs are not required.

d. Use a next-day delivery service such as FedEx, UPS, or DHL. The USPS does **not** deliver to the laboratory. If shipping from overseas, use the fastest mailing service available. Including a copy of the Centers for Disease Control import permit will facilitate the shipment's clearance through U.S. Customs.

7-5. Equine Infectious Anemia (EIA).

a. Only U.S. Government-owned horses and privately owned horses maintained on military installations are eligible for testing.

b. Submit the serum specimen with a completed USDA VS Form 10-11, "Equine Infectious Anemia Laboratory Test" (2003 or latest version). This form is available from area Veterinarian in Charge regional offices of the USDA Animal and Plant Health Inspection Service. (View an example at http://www.aphis.usda.gov/animal_health/animal_diseases/eia/downloads/vs_form10-11.pdf.) When the testing has been completed, the laboratory will distribute the results to the appropriate recipients, including Part 4—Area Veterinarian in Charge (pink copy) and Part 5—State Veterinarian (yellow copy).

c. The DoD FADL participates in GlobalVetLink (GVL), which offers electronic EIA reporting services to veterinarians for a fee. The veterinary treatment facilities are encouraged to subscribe to GVL to expedite the testing process for Government- or privately-owned horses. The benefits of the service greatly outweigh the expense.

7-6. Wildlife Disease Surveys.

a. Serological testing in support of wildlife disease surveys requires a current protocol signed by the Major Command and the Director, DoD Veterinary Laboratory.

b. Contact the laboratory regarding the appropriate test request form.

c. Routine wildlife disease surveys are performed as the workload permits.

7-7. Specimens for Isolation of Leptospira.

a. Media and specific directions/instructions will be provided upon request and can normally be delivered from the Fort Sam Houston Laboratory within 24–48 hours.

b. Collect blood specimens for culture in vacutainer tubes containing potassium oxalate (gray-top tube) or sodium heparin (green-top tube)

anticoagulant. Culture the blood specimens on the same day they are collected.

c. Collect urine aseptically and inoculate aliquots into Ellinghausen-McCullough-Johnson-Harris (EMJH) bacterial culturing media within 1 hour for successful isolation. Unfortunately, urine is toxic to leptospire.

d. Incubate the inoculated tubes at 28–30°C or room temperature until they are shipped.

e. Pack the tubes to prevent breakage, and ship them in an insulated shipping container. Do not use any refrigerant because leptospire do not tolerate cold conditions and may not survive the transit if they are chilled.

7–8. Diagnostic Test List–Animal Specimens.

Table 7–1 lists the diagnostic tests available for animal specimens. Refer to the Glossary for any acronym definitions not included in the table.

Table 7–1. Diagnostic Test List for Animal Specimens

AGENT/DISEASE	METHOD	SPECIMEN	QUANTITY
Anaplasmosis (<i>Anaplasma phagocytophilum</i>)	IFA	Canine serum	0.5-1 mL
<i>Babesia canis</i>	IFA	Canine serum	0.5-1 mL
<i>Babesia gibsoni</i>	IFA	Canine serum	0.5-1 mL
<i>Brucella canis</i>	Slide agglutination (SA)	Canine serum	0.5-1 mL
<i>Brucella abortus</i>	Card/Slide/Tube agglutination	Serum	0.5-1ml
Chagas Disease (<i>Trypanosoma cruzi</i>)	IFA	Canine serum	0.5-1 mL
<i>Ehrlichia canis</i>	IFA	Canine serum	0.5-1 mL
Equine infectious anemia	SA-ELISA	Equine serum	0.5-1 mL
Heartworm (<i>Dirofilaria immitis</i>)	ELISA	Canine serum	0.5-1 mL
Leishmania	IFA– <i>Leishmania donovani</i> complex (Sligo strain Fox hound, DD-8 Kala-Azar strain)	Canine serum	0.5-1 mL
Leptospirosis (<i>Leptospira interrogans</i>)	Culture/Isolation IHA–human screen ELISA (PanBio)–human screen MAT (Microscopic Slide Agglut Test)	Fresh urine < 2 hour Blood Serum	10-100 mL 0.5-2 mL 0.5-1 mL
Lyme Disease (<i>Borrelia burgdorferi</i>)	IFA Canine Western Blot confirmation (Immunetics)	Canine serum	0.5-1 mL
Q Fever (<i>Coxiella burnetii</i>)	IFA (Phase 1, 2 antigen)	Canine serum	0.5-1 mL
Rabies antibody	RFFIT: Rapid Fluorescent Focus Inhibition Test FAVN: Fluorescent Antibody Viral Neutralization test	Human serum Canine, feline serum (Pet Travel)	0.5-1 mL
Rabies Virus Detection Rabies Virus Confirmation	Direct FA Mouse Neuroblastoma Cell Culture	Brain tissue 10% Brain suspension	Fresh
Rocky Mt. Spotted Fever Group (<i>Rickettsia rickettsi</i>)	IFA	Canine serum	0.5-1 mL
Typhus Fever Group (<i>Rickettsia typhi</i>)	IFA	Canine serum	0.5-1 mL
OTHER TESTS		SPECIMEN	QUANTITY
Exportation Certification	Hawaii, Guam, New Zealand, Australia, England, Sweden, Japan, etc.	Canine, feline serum	0.5-1 mL
Other tests not listed	Referral Service	Call for information	Call for information

APPENDIX A
REFERENCES

Refer to Paragraph 1–2 for the references applicable to this guide.

APPENDIX B**PHOTOS OF SAMPLES RECEIVED IN NON-TESTABLE CONDITION**

B-1. The sender of the sample shown in Figure B-1 did not fill the “dead space” in the container. Use “dunnage,” such as crumpled newspaper or cardboard, to fill voids. Do not use Styrofoam peanuts or shredded paper. Use bubble wrap and air pillows on top only.



Figure B-1. Non-testable Sample 1

B-2. As shown in Figure B-2, the sender placed the test sample and the pilot sample in different Styrofoam containers for shipment; this is incorrect. Place the pilot sample and the test sample in the same insulated container.



Figure B-2. Non-testable Sample 2

B-3. As shown in Figure B-3, the sender placed the samples (in plastic bags) inside separate cardboard boxes. The ice packs were placed beneath the cardboard boxes. The correct shipping temperature for the samples was not maintained due to the separation of the cold packs from the samples.



Figure B-3. Non-testable Sample 3

GLOSSARY

Section I.

Acronyms and Abbreviations

AAFES	Army and Air Force Exchange Service
APC	Aerobic Plate Count
AR	Army Regulation
C	Celsius
CBP	U.S. Customs and Border Protection
CFR	Code of Federal Regulations
CFU	colony forming unit
cm	centimeter
cm²	square centimeters
COC	chain of custody
CONUS	Continental United States
DA	Department of the Army
DeCA	Defense Commissary Agency
DoD	Department of Defense
EIA	Equine Infectious Anemia
ELISA	Enzyme-linked Immunosorbent Assay
F	Fahrenheit
FADL	Food Analysis and Diagnostic Laboratory
FAVN	Fluorescent Antibody Viral Neutralization [Test]
FedEx	Federal Express

FWRA	Food and Water Risk Assessment
g	gram/grams
GVL	GlobalVetLink
IFA	Immunofluorescence Assay
IHA	Indirect Hemoglutination Antibody
IRC	Inspection Responsibility Code
JBSA	Joint Base San Antonio
LAFB	Lackland Air Force Base
lb/lbs	pound/pounds
mL	milliliter
MRE	Meal, Ready-to-Eat
MWD	military working dog
MWR	Directorate of Morale, Welfare, and Recreation
N/A	not applicable
NPDWR	National Primary Drinking Water Regulations
OCONUS	Outside the Continental United States
OIE	Oficina Internacional de Epizootias (World Organization for Animal Health)
oz.	ounce/ounces
PHCR-S	Public Health Command Region–South
POC	point of contact
RTE	ready-to-eat
SOP	Standing Operating Procedure
TSA	Transportation Security Administration

TX	Texas
UPC	Universal Product Code
UPS	United Parcel Service
USAPHC	U.S. Army Public Health Command
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USPS	U.S. Postal Service
VETLAB	Veterinary Laboratory
VS	Veterinary Services

Section II. Terms

Aerobic Plate Count

Indicates the level of live aerobic mesophilic bacteria in food items. The APC is used to evaluate the sanitary condition of food products or equipment. It is also referred to as Total Plate Count (TPC) and Heterotrophic Plate Count (HPC) in water.

Approved Source

An establishment listed in USAPHC Circular 40–1, *Worldwide Directory of Sanitarily Approved Food Establishments for Armed Forces Procurement*, or an establishment which meets the criteria for exemption as defined by Circular 40–1.

Coliform

A heterogeneous group of microorganisms that can be found in both feces and the environment; its presence does not always indicate fecal contamination. The coliform group comprises aerobic, facultative anaerobic, Gram-negative, heat-sensitive, non-spore-forming rods able to ferment lactose with the production of acid and gas. Typical coliforms include *Escherichia*, *Enterobacter*, and *Klebsiella*.

Frozen Desserts

Products that include ice cream, mellorine, sherbet, ice milk, ice cream mix, ice milk mix, milk shake mix, and other similar frozen desserts, including frozen novelties.

Milk Products (herein referred to as “Fresh Dairy Products”)

Items listed in Section I of the *Grade A Pasteurized Milk Ordinance, 2007 Revision* (see Appendix A), including cream, light cream, light whipping cream, heavy cream, heavy whipping cream, whipped cream, whipped light cream, sour cream, acidified sour

cream, cultured sour cream, half-and-half, sour half-and-half, acidified sour half-and-half, cultured half-and-half, sour half-and-half, acidified sour half-and-half, cultured half-and-half, reconstituted or recombined milk and milk products, concentrated milk, concentrated milk products, skim milk, low-fat milk, frozen milk concentrated, eggnog, buttermilk, cultured buttermilk, cultured milk, cultured low-fat milk, cultured skim milk, yogurt, low-fat yogurt, nonfat yogurt, acidified milk, acidified low-fat milk, acidified skim milk, low-sodium milk, low-sodium low-fat milk, low-sodium skim milk, lactose-reduced milk, lactose-reduced low-fat milk, and lactose-reduced skim milk.

Perishable Food Items

Food items that, under normal conditions, must be chilled or frozen in order to prevent their spoilage/deterioration.

Primary Container

The immediate container in which the product is packaged and which serves to protect, preserve, and maintain the condition of the product. The primary container may be constructed of metal, glass, fiber, wood, textile, plastic, paper, or any other suitable type of material and may be supplemented by liners, overwraps, or other protective material.

Ready-to-Eat

A food product in a form that is edible without additional preparation, to include washing and cooking, to achieve food safety. Such foods may, however, receive additional preparation for palatability or aesthetic, epicurean, gastronomic, or culinary purposes.

Representative Sample

Sample items drawn from various locations throughout the load or lot.

Shipping (Master) Container

The external container that protects the primary container. It affords adequate protection against corrosion, deterioration, and physical damage during shipment, handling, and intermediate storage.

**LOCAL REPRODUCTION IS
AUTHORIZED AND ENCOURAGED**

MARCH 2014

