

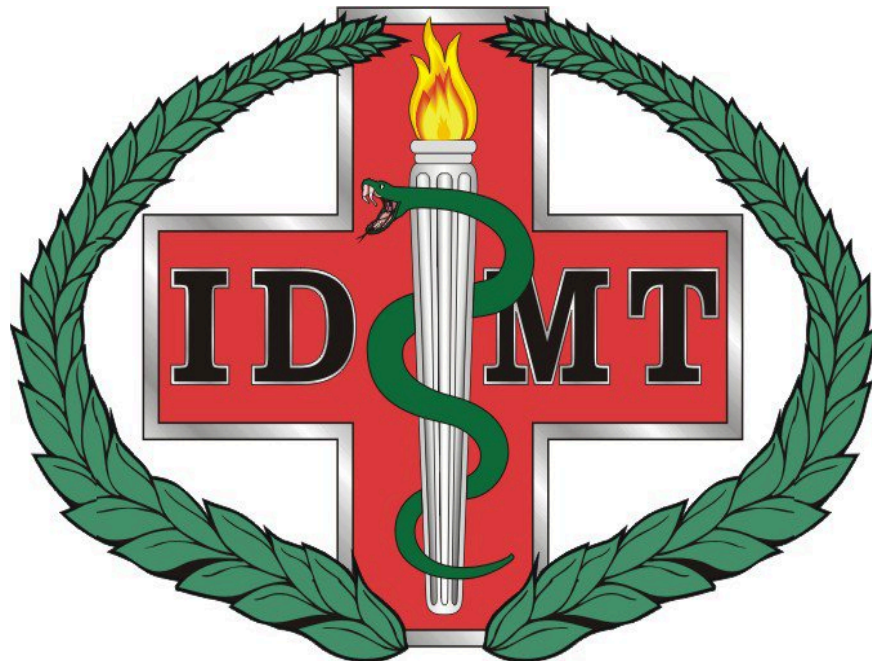
QTP4N0X1C-8

02 July 15

Certified Current, 13 July 2022

**AEROSPACE MEDICAL SERVICE SPECIALTY
INDEPENDENT DUTY MEDICAL TECHNICIAN**

**BIOENVIRONMENTAL AND
PUBLIC HEALTH PROCEDURES**



TOTAL FORCE, TOTAL CARE – EVERYTIME, ANYWHERE

383d TRAINING SQUADRON/XUFB
INDEPENDENT DUTY MEDICAL TECHNICIAN COURSE
3488 Garden Ave – Anderson Hall, Rm 331
JBSA-Fort Sam Houston, TX 78324

QTP 4N0X1C-8

**AEROSPACE MEDICAL SERVICE SPECIALTY - INDEPENDENT DUTY
MEDICAL TECHNICIAN**

Volume 8: Bioenvironmental and Public Health Procedures

TABLE OF CONTENTS

<u>MODULE</u>	<u>OBJECTIVE</u>	<u>PAGES</u>
1	Perform Chlorine Residual/pH Test	1 - 3
2	Perform Bacteriological Water Testing	4 - 5
3	Conduct Food Safety Inspections	6 - 9

Supersedes QTP 4N0X1C-8, December 2014.

INTRODUCTION

1. These Qualification Training Packages (QTPs) were developed to enhance on-the-job training for Aerospace Medical Service Specialist, Independent Duty Medical Technician (IDMT), 4N0X1C personnel. As a trainer, the QTPs provide you with the breakdown of tasks into teachable elements. The teachable elements will help you to guide the trainee toward sufficient proficiency for task performance **without assistance**. QTPs are also used by the task certifiers/certification official to evaluate trainees concerning tasks which need third-party certification.
2. Review each volume and identify which modules of QTPs are needed for the trainee's job position. Core task items are identified with the number "5" on the STS Column 2; these items are the minimum mandatory skills which are required for all 4N0X1 personnel to be proficient in performing. You have the flexibility to arrange training for each module in the order that you decide.
3. Review the subject-area tasks in each module with the trainee. Direct the trainee to review the training references to gain a better understanding of the objective for each module. If the trainee has any questions about the objective, clarify the behavior that is expected in the objective. Review the performance checklist with the trainee, and allow sufficient time to learn each step (some objectives may take longer to teach). Remember--the objective of each QTP is to standardize training and to allow sufficient time for the trainee to learn each task thoroughly in order to perform the task **without assistance**.
4. When the trainee receives sufficient training and is ready to be evaluated on an objective, follow the evaluation instructions. The performance checklist must be used as you evaluate each task objective. When the trainee successfully accomplishes the objective, document task completion appropriately in training records.
5. The QTP task completion is to be annotated on AF Form 1098, *Special Task Certification and Recurring Training*, filed in training folder. **NOTE:** The individual checklists are **not** filed in each member's training folder. A master checklist is filed in part 3, section B of the master training plan (MTP) six-part training folder.
6. If the trainee does not accomplish the objective, review the areas which need remediation. Conduct a feedback concerning each module with the trainee, and document appropriately in the training folder. As the trainer, once you are satisfied that the trainee is qualified to perform the task, he/she will be re-evaluated until the objective is met.
7. If the task which is being trained requires third party certification by a task certifier/certifying official, the trainer must first ensure that the trainee is qualified to perform the task **without assistance**. The trainee then will be evaluated by a task certifier/certifying official. The tasks which require third party certification are denoted

with a “^” in Column 3E of the Career Field Education and Training Plan (CFETP). The qualification of training then is documented appropriately in the training folder.

8. The QTPs are a necessary tool for standardizing refresher/sustainment training. Such standardization will benefit the CFETP training concept throughout each member’s career. These documents also will be utilized for assessing/certifying the Aerospace Medical Service Specialist, IDMT, 4N0X1C, each time that he/she is arrives to a new duty station. The QTP developers’ goal is to publish a usable document for certifying officials, trainers, and trainees for the purpose of enhancing on-the-job training for Aerospace Medical Service Specialist, IDMT personnel. We value your first hand expertise and we encourage your feedback. Direct all inquiries to:

Independent Duty Medical Technician Course

383d Training Squadron/XUFB
3488 Garden Ave, Anderson Hall Rm 331
JBSA-Fort Sam Houston, TX 78234

Voice: DSN 420-4670
Comm: (210) 808-4670

PERFORM CHLORINE RESIDUAL/pH TEST

SUBJECT AREA: Independent Duty Medical Technician (IDMT)

TASK NAMES: Bioenvironmental Services; Perform chlorine residual/pH tests

CFETP/STS REFERENCES: 10.9.4.1.1.

EQUIPMENT REQUIRED: Chlorine/pH Water Test Kit

TRAINING REFERENCES: 48-144, *Drinking Water Surveillance Program*
AFMAN 10-246, *Food and Water Protection Program*
AFMAN 48-138_IP, *Sanitary Control and Surveillance of Field Water Supplies*
Local test kit instructions

OBJECTIVE: Using a Chlorine/pH water test kit and sample of water, perform chlorine residual and pH test. Evaluator will validate color comparison and test results. Trainee should complete task with 100% accuracy.

EVALUATION INSTRUCTIONS: After the trainee has received instruction, allow sufficient practice on each part of the task.

NOTE: The evaluator will **STOP** the procedure immediately and correct the member if performance is detrimental to safety.

STEPS IN TASK PERFORMANCE:

1. Assemble equipment
2. Collect water sample
3. Add Chlorine indicator tablet
4. Read test result
5. Collect water sample
6. Add phenol red pH tablet
7. Read test result

ATTACHMENT: Performance checklist.

VOL 8 MODULE 1**PERFORM CHLORINE RESIDUAL/pH TEST**

PERFORMANCE ITEM	SAT	UNSAT
PERFORM CHLORINE RESIDUAL TEST		
1. Assemble equipment		
a. Test tube with cap		
b. Chlorine residual color comparator		
c. Chlorine indicator tablet (Free or Total)		
2. Collect water sample		
a. Select potable water source		
b. Turn on water, allow to run for a few minutes		
c. Rinse test tube in water to be tested		
d. Fill to mark on tube		
3. Add chlorine indicator powder		
a. Tear foil packet		
b. Empty entire packet into sample		
c. Cap test tube and swirl to mix		
4. Read test result		
a. Select appropriate Chlorine residual color comparator		
b. Insert test tube		
c. Rotate the color disc until the colors in the windows match		
d. Read results, must be accomplished within 1 minute of dissolution of the tablet		
**This checklist was designed using the Hach Test Kit; local procedures may be substituted for different manufacture test kits		
FINAL RESULT:		

VOL 8 MODULE 1
PERFORM CHLORINE RESIDUAL/pH TEST

PERFORMANCE ITEM	SAT	UNSAT
PERFORM pH TEST		
1. Assemble equipment		
a. Test tube with cap		
b. pH color comparator		
c. Phenol Red Wide Range Indicator Solution		
2. Collect water sample		
a. Test is accomplished in conjunction with chlorine residual testing		
b. Rinse test tube in water to be tested		
c. Fill to mark on tube		
3. Add Phenol Red Wide Range Indicator Solution		
a. Remove solution dropper		
b. Add 6 drops of Wide Range Indicator Solution into water sample		
c. Cap test tube and swirl to mix		
4. Read test result		
a. Select pH color comparator		
b. Insert test tube into pH color comparator		
c. Rotate the color disc until the colors in the windows match		
d. Read results, must be accomplished within 1 minute		
**This checklist was designed using the Hach Test Kit; local procedures may be substituted for different manufacture test kits.		
FINAL RESULT:		

PERFORM BACTERIOLOGICAL WATER TESTING

SUBJECT AREA: Independent Duty Medical Technician (IDMT)

TASK NAMES: Bioenvironmental Services; Perform bacteriological water testing

CFETP/STS REFERENCES: 10.9.4.1.2.

EQUIPMENT REQUIRED:

1. Water testing kit (may use Millipore, Hach, Colilert, or other approved test kit) with equipment specified in kit instructions

TRAINING REFERENCES: 48-144, *Drinking Water Surveillance Program*
AFMAN 10-246, *Food and Water Protection Program*
AFMAN 48-138_IP, *Sanitary Control and Surveillance of Field Water Supplies*
Local test kit instructions

OBJECTIVE: Using a water testing kit and necessary supplies, perform a bacteriological water test

EVALUATION INSTRUCTIONS: After the trainee has received instruction allow sufficient practice on each part of the task.

NOTE: The evaluator will **STOP** the procedure immediately and correct the member if performance is detrimental to safety.

STEPS IN TASK PERFORMANCE:

1. Prepare water test kit
2. Select water source to be tested
3. Collect water samples
4. Incubate test sample
5. Document source, chlorine residual and pH, per QTP Vol 8, mod 1
6. Identify if Coliform is present after incubation period
7. Document result of bacterial testing, per established procedures

ATTACHMENT: Performance checklist.

VOL 8 MODULE 2 PERFORM BACTERIOLOGICAL WATER TESTING

PERFORMANCE ITEM	SAT	UNSAT
PERFORM BACTERIOLOGICAL WATER TESTING		
1. Prepare incubator		
a. Select correct voltage for power source		
b. Set incubator temperature to 35°C		
2. Select water source to be tested		
a. Must be for drinking or culinary purposes		
b. Must not be:		
(1) Hot water faucet		
(2) Mixing faucet		
(3) Leaking fixture		
(4) Drinking fountain		
(5) Dead end section of distribution system		
3. Water test preparation		
a. Open tap and let water run a few minutes		
b. Close tap and clean with alcohol prep pads		
c. Re-open tap and produce small stream of water		
d. Determine chlorine residual* (QTP Vol 8, Mod 1)		
e. Determine pH of sample* (QTP Vol 8, Mod 1)		
4. Colilert reagent test procedures		
a. Place one water sample container on the counter and aseptically remove the lid and place it upside down on the sterilized counter top.		
b. Fill water sample container to marked fill line.		
c. Carefully separate one Colilert Snap Pack from the strip taking care not to accidentally open the next pack.		
d. Tap the side of the Colilert reagent snap pack to ensure that all the Colilert powder is in the bottom of the pack.		
e. Aseptically open one pack by snapping back the top at the scoreline. Do not touch the opening of the pack.		
f. Add the contents to the water sample and aseptically cap and seal the container.		
g. Shake vigorously by repeated inversion to aid dissolution of the reagent. Some particles may remain undissolved. Dissolution will continue during incubation.		
h. Repeat steps 4.a. thru 4.g. until all samples are completed.		
5. Incubate for time duration specified in local kit		
6. Document source, chlorine residual and pH, per established procedures		
7. Identify if Coli-form is present according to test kit		
8. Document result of testing, per established procedures		
** This checklist was developed using the Colilert test kit		
FINAL RESULT:		

CONDUCT FOOD SAFETY INSPECTION

SUBJECT AREA: Independent Duty Medical Technician (IDMT)

TASK NAMES: Public Health; Administer food safety program, Conduct a Food Safety Inspection

CFETP/STS REFERENCES: 10.10.3.

EQUIPMENT REQUIRED: AF Form 977, Food Service Thermometer, Chlorine paper, and Flashlight

TRAINING REFERENCES: AFI 48-116, *Food Safety Program*, August 2014.
AFMAN 48-147IP, *Tri-Service Food Code*, April 2014.
Food Code, U.S. Public Health Service and Food and Drug Administration, 2013.

OBJECTIVE: Accompanying Military Public Health personnel, demonstrate proficiency at conducting Food Safety Inspections (Inspection of base dining facility is preferred over other base food service areas for this evaluation)

EVALUATION INSTRUCTIONS: After the trainee has received instruction, allow sufficient practice on each part of the task.

NOTE: The evaluator will **STOP** the procedure immediately and correct the member if performance is detrimental to safety.

STEPS IN TASK PERFORMANCE:

1. Management and Personnel
2. Food
3. Equipment, Utensils, and Linens
4. Water, Plumbing, and Waste
5. Physical Facilities
6. Poisonous or toxic materials
7. Determine Rating

ATTACHMENT: Performance checklist.

VOL 8 MODULE 3**CONDUCT FOOD SAFETY INSPECTIONS**

PERFORMANCE ITEM	SAT	UNSAT
CONDUCT FOOD SAFETY INSPECTIONS		
General Survey of Food Service Facility		
1. Management of personnel		
a. Supervision is adequate to ensure compliance with standards of safety and hygiene		
b. Employee health and safety programs are kept at management's focus		
c. Personal cleanliness of staff uniforms and clothing is enforced by policy		
d. Hygiene practices (e.g. hand washing enforced by management)		
2. Food storage and handling		
a. Staff knows potentially hazardous foods and verbalizes appropriate handling		
b. Sources of supply are approved and proper handling is ensured in transit		
c. Protected from contamination upon receipt and while in interim storage		
d. Approved methods of long term storage are practiced		
e. Items are properly labeled as to date/time after opening		
f. Secondary storage containers are appropriate and well labeled		
3. Equipment, Utensils, and Linens		
a. Equipment/utensils on hand are adequate to meet operational need		
b. Location and installation of appliances are functional and appropriate		
c. Maintenance of equipment ensures food safety		
d. Laundering of linens and uniforms is available and ensures hygiene		
Food Safety Inspection		
1. Inspect food handlers		
a. Health certificates issued by medical authority		
b. Personal hygiene		
c. Training Certificates reflect current food safety training		
d. Supervisors ensures in-service education is an on-going process for employees		
2. Inspect facilities, equipment and previous AF Form 977 entries		
a. Ventilation and sneeze shields on serving line and salad/dessert bars		
b. Ventilated as required by AFOSH, OSHA, and USDA Food Safety		
c. Floors (safety and cleanliness)		
d. Insect and rodent control (screens/garbage)		

VOL 8 MODULE 3**CONDUCT FOOD SAFETY INSPECTIONS (cont)**

PERFORMANCE ITEM	SAT	UNSAT
CONDUCT FOOD SAFETY INSPECTIONS		
Food Safety Inspection - (Continued)		
e. Preparation surfaces		
f. Utensil storage		
g. Hand washing facilities		
h. Mop and broom racks (storage/segregation)		
i. Outside areas		
j. Latrine(s) (soap/hot water/hand washing signs)		
3. Determine Approved Sources		
a. Food		
b. Water/ice		
4. Inspect Storage Technique		
a. Refrigerators (35° - 40° F)		
b. Freezers (0° F or below)		
c. Vegetables (35°-55° F)		
d. Bread and bakery products		
e. Milk dispensers (32° - 40° F)		
f. Dry storage		
(1) 6" from floor		
(2) 18" from ceiling		
g. Non-food		
h. Clean Equipment		
5. Inspect Preparation Technique		
a. Serving line (temp $\geq 140^{\circ}$ F)		
b. Potentially hazardous food		
(1) Hot ($\geq 165^{\circ}$ F)		
(2) Cold ($\leq 40^{\circ}$ F)		
c. Sandwiches		
d. Green vegetables		
e. Frozen food		
f. Left-over food (labeled and dated)		
(1) Labeled (time and date)		
(2) < 24hrs old		
g. Dishes and utensils (stored upside down)		
h. Handling procedures		
6. Inspect Washing and Sanitizing		
a. Machine operation		
(1) Pre-wash		
(2) Wash ($\geq 150^{\circ}$ F)		
(3) Rinse ($\leq 160^{\circ}$ F)		
(4) Sanitizing ($\geq 180^{\circ}$ F)		

VOL 8 MODULE 3 CONDUCT FOOD SAFETY INSPECTIONS (cont)

PERFORMANCE ITEM	SAT	UNSAT
CONDUCT FOOD SAFETY INSPECTIONS		
Food Safety Inspection – (Continued)		
b. Compartment (3) sink		
(1) Pre-wash		
(2) Wash (120°-130° F)		
(3) Rinse (140°-150° F)		
(4) Sanitizing ($\geq 170^{\circ}$ F or 75°-120° F with 50ppm chlorine solution)		
c. Large equipment		
d. Coffee containers		
e. Other food contact surfaces		
f. Vending machines		
7. Facility Cleanliness		
a. Garbage stand and dumpster		
b. Grease interceptors		
c. Refuse handling		
8. Determine Rating		
FINAL RESULT		

AEROSPACE MEDICAL SERVICE SPECIALTY – IDMT

BIBLIOGRAPHY AND OTHER REFERENCES

1. *Food Code*, 2013, U.S. Public Health Service, Food and Drug Administration. College Park, MD.
2. AFMAN 10-246, Food and Water Protection Program, 27 May 2014.
3. AFMAN 48-138_IP, Sanitary Control and Surveillance of Field Water Supplies, 1 May 2010.
4. AFMAN 48-147, Tri-Service Food Code, 30 April 2014.
5. AFI 48-144, Drinking Water Surveillance Program, 21 October 2014.
6. AFI 48-116, Food Safety Program, 19 August 2014.
7. Tintinalli JE. *Tintinalli's Emergency Medicine, A Comprehensive Study Guide*. Current Edition. Chapel Hill, NC. McGraw-Hill, 2014.