

# Training and Evaluation Outline Report

Status: Approved

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Task Number: 10-TM-5871

Task Title: Facilitate Petroleum Quality Surveillance Program

**Distribution Restriction:** Approved for public release; distribution is unlimited.

**Destruction Notice:** None

**Foreign Disclosure: FD1** - This training product has been reviewed by the training developers in coordination with the Fort Lee, VA 23836 foreign disclosure officer. This training product can be used to instruct international military students from all approved countries without restrictions.

## Supporting Reference(s):

Step Number	Reference ID	Reference Name	Required	Primary	Source Information
	AR 385-10	The Army Safety Program	Yes	No	
	ATP 3-34.5	Environmental Considerations	Yes	No	
	ATP 4-43	Petroleum Supply Operations	Yes	No	
	DD FORM 2927	PETROLEUM AND LUBRICANTS SAMPLE IDENTIFICATION TAG	Yes	No	
	FM 3-0	Operations (This item is published w/Basic incl change 1)	Yes	No	
	FM 4-0	Sustainment Operations	Yes	No	
	TM 10-6640-264-10	Technical Manual Operator's Manual for Petroleum Quality Analysis System-Enhanced (PQAS-E) NSN 6640-01-547-1760	Yes	No	
	TM 4-43.31 (Revision, March 25, 2015)	Petroleum Laboratory Testing and Operations	Yes	Yes	

**Conditions:** The petroleum laboratory team has received an Operations Order (OPORD) from higher headquarters (HQ) to conduct petroleum quality surveillance testing to support elements in the assigned area of operation IAW the mission order, the commanders guidance, tactical standing operating procedures (TSOP), approved Army and Joint publications, and approved Army standards outlined in the Task Evaluation Matrix criteria within the specified time frame.

The petroleum laboratory team has primary access to main supply routes, approved external logistical support, and it is accessible to all supported and supporting customers/units. Continuous digital and analog communications have been established and the team has been provided the rules of engagement (ROE) for the mission. Threat capabilities have been replicated and include opposing forces (OPFOR) with near-peer enablers that include cyber, degraded space, electronic warfare (EW), integrated air defense, counter and precision fires, and chemical, biological, radiological, nuclear (CBRN) environments, information warfare, and air threats. These conditions may cause chaos, fear, violence, fatigue, and increase complexity. These conditions require the integration of all warfighting functions across multiple domains against a peer threat. Soldiers must be prepared to operate in degraded or disrupted communication environments. Leaders must identify mission, enemy, terrain and weather, troops and support, available time and civil considerations (METT-TC) constraints that can be used against civilian infrastructure and resources which support military operations. All authorized equipment is on hand and operational. All personnel are available to conduct day and night operations. The lab team has adequate time to prepare and required unit leaders are present in the area of operations.

This task should not be trained in MOPP 4.

**Standards:** The petroleum laboratory team will Facilitate Petroleum Quality Surveillance Program with the use of all available equipment and personnel within the specified time constraints in the mission OPORD and in accordance with (IAW) higher HQs guidance, applicable internal and external TSOP's, approved Army and Joint publications and the Army standards identified in the Task Evaluation Criteria Matrix.

**LEADER STATEMENT:** For the purpose of this task, an Army leader is defined as a Soldier who is in a senior officer, warrant officer, and/or noncommissioned officer (NCO) position designated by grade, paragraph, and title on the units Table of Organization and Equipment (TOE). Leaders are not only defined as officers, warrant officers, noncommissioned officers, and Army civilians in leadership positions but also include individuals who are Subject Matter Experts (SME) which possess the requisite knowledge and skill set to perform a particular task (For example, conduct an operation, provide logistics, or operate specific technical equipment, etc.) at the tactical through strategic level as the situation and/or mission(s) dictates. Leaders may also be personnel assigned to the unit and designated as a leader by the unit commander.

Live Fire: No

**Objective Task Evaluation Criteria Matrix:**

Plan and Prepare		Execute					Assess				
Operational Environment	SQUAD & PLT	Training Environment (L/V/C)	Leaders Present at Training/Required	Present at Training/Required	External Eval	Performance Measures	Critical Performance Measures	Leader Performance Measures	Evaluator's Observed Task Proficiency Rating	Commander's Assessment	
Dynamic (Single Threat)											Night
Dynamic (Single Threat)	Night	75-84%				80-90%		80-89%	T-	T-	
		65-74%	75-79%			65-79%			P	P	
Static (Single Threat)	Day	60-64%	60-74%	No		51-64%			P-	P-	
							<All	<=79%			
		<=59%	<=59%			<=50%			U	U	

**Remarks:** Task steps and performance measures are intended to be arranged in a logical order. However, they are not intended to be interpreted as a "required order" for performance. Not every performance task steps and/or performance measures of collective task will be applicable to every unit. Prior to evaluation, coordination should be made between the evaluator, the unit itself, and the evaluated units' higher headquarters (if required) to determine the task step(s) and/or performance measure(s) that must be performed during the evaluation or identify performance steps/measures that do not apply to the unit and may be omitted and identified as N/A during the evaluation. However, when evaluating this task, only the CRITICAL performance steps and measures will be used to calculate the overall percentage total in the training evaluation criteria matrix.

Training begins with the execution of pre-combat checks and inspections. Training ends when designated training objectives for the particular training events or exercises are performed to Army standard. Unit leadership should conduct an After Action Report (AAR) to determine future training requirements for the unit.

Task Evaluation Criteria Matrix Operational Environment (OE) Definitions:

Static—a static training environment has aspects of operational variables needed to stimulate mission variables that are fixed throughout the units' execution of the task.

Dynamic—a dynamic training environment has operational variables and threat Tactics, Techniques, and Procedures (TTP) for assigned counter-tasks that change in response to the execution of friendly force tasks.

Complex—a complex training environment requires a minimum of four—terrain, time, military (threat), and social (population)—or more operational variables; brigade and higher units require all eight operational variables to be replicated in varying degrees based on the task being trained.

Single threat—a single threat in a training environment is a conventional force, irregular force, criminal element, or terrorist force.

Hybrid threat—a hybrid threat in a training environment uses diverse and dynamic combination of conventional forces, irregular forces, terrorist forces, and criminal elements unified to achieve mutually benefitting effects.

Task steps and measures were developed using the Plan, Prepare, Execute, and Assess (PPEA) construct to reinforce the operations process and is implied throughout the Training & Evaluation Outline (T&EO) as applicable.

**Notes:** 1. **DISRUPTED COMMUNICATION NETWORKS:** Leaders need to be able to command their formations when communication networks are disrupted, while on the move, and without perfect situational awareness. Training to become proficient in the use of analog data tracking systems, voice communications, and unaided navigation techniques requires significant amounts of repetition, particularly when integrating all of the elements of combat power. Habitual relationships, practiced standard operating procedures, and the use of battle drills can mitigate some of the risk and friction inherent in lost situational awareness.

2. **REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS:** Feedback is welcome to help improve this collective task. If errors are found, or if someone would like to recommend improvements to the performance steps and procedures in this collective task, please let us know. The preferred method is to submit a DA Form 2028 (Recommended Changes to Publications and Blank Forms) with recommended changes via email to [usarmy.lee.tradoc.mbx.cascom-g3-collective@mail.mil](mailto:usarmy.lee.tradoc.mbx.cascom-g3-collective@mail.mil). Recommended changes will be reviewed, validated to ensure approved Army or joint doctrine supports recommendation(s), and implemented as appropriate.

**Safety Risk:** Low

<b>Task Statements</b>
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**Cue:** The petroleum laboratory team has received an OPORD from higher HQ to facilitate the petroleum quality surveillance program.

## DANGER

Fuels and solvents are flammable and may cause irritation to the eyes or skin. Wear protective goggles, gloves, and an apron; avoid contact with skin, eyes, and clothing. Use in well ventilated areas and keep away from heat or flame. Follow all Material Safety Data Sheet Hazardous Materials Identification System, ISO 9000-2, Lab Safety Operating Procedures, and related instructions. Failure to comply may result in personnel injury or death.

## WARNING

Safe and efficient fuel laboratory operations depend on the observance of well-established safety practices and a thorough knowledge of testing procedures. The testing procedures often involve using equipment and materials that are potentially hazardous. Injury to personnel and damage to equipment by fire, chemicals, dangerous pressures and vacuums, or misuse of equipment can be avoided by alert and responsible laboratory technicians. Observe all warnings, safety precautions, and safety regulations. Strict observance of established safety, care, and handling procedures will allow laboratory personnel to perform their duties in a safe and hazard-free environment.

## **CAUTION**

DO NOT connect any cables or apply power before properly grounding the Petroleum Quality Analysis System – Enhanced (PQAS-E). Lack of equipment grounding or improper grounding can cause severe injury or death to personnel, or damage to equipment. To prevent possible shock, ground strap must be connected to ground rod before connecting strap to shelter. Ground strap should not obstruct the entrance door, interfere with shelter cables, or create a safety hazard. Ground the PQAS-E in accordance with current doctrine for Grounding of Systems. In case of a mercury spillage, do NOT vacuum or sweep the area as this will disperse mercury throughout the laboratory.

**Performance Steps and Measures**

**NOTE:** Assess task proficiency using the task evaluation criteria matrix.

**NOTE:** Asterisks (\*) indicate leader steps; plus signs (+) indicate critical steps.

**STEP/MEASURE**

GO	NO-GO	N/A
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**Plan**

- 1. The petroleum lab team OIC/NCOIC facilitates the petroleum quality surveillance program by assisting commanders with establishing a plan for sampling scheduling IAW MIL STD 3004.
- + 2. Petroleum Officer, Petroleum Systems Technician, Petroleum Laboratory Supervisor, Platoon Leader, and/or Platoon Sergeant develop plan for directing petroleum quality surveillance testing.
  - a. Inform commander on requirements for internal quality surveillance operations, personnel, and equipment.
  - b. Coordinate with higher headquarters for external fuel testing outside of team capability.
  - c. Communicate with commander and/or higher headquarters for updated mission support guidance.
  - d. Ensure petroleum laboratory personnel are properly certified and trained.
  - e. Ensure that laboratory personnel comply with laboratory tactical standard operating procedures and current Military Standard (MIL-STD) 3004 publication.


**Prepare**

- 3. Prepare reports on the internal/external quality surveillance operations, personnel, and equipment status.
- + 4. Lab Team personnel provide guidance to subordinate petroleum organizations on the application of Preventative Maintenance Checks and Services (PMCS) on organic laboratory equipment.
- 5. Establish communication with higher HQs, subordinate and or adjacent elements IAW TSOP.
- 6. Performs analysis for testing requirements of bulk petroleum products in support of petroleum labs operating within theater.
- + 7. Petroleum Laboratory Team personnel organize laboratory storage area.
  - a. Ensure storage areas are secured when not in use to prevent unauthorized personnel from entering.
  - b. Store only one kind of fuel in a tank to maintain fuel quality.
  - c. Store chemicals by hazard class, not alphabetically, and post storage areas to show the exact location of the chemical groups.
  - d. Ensure inventory of all products (packaged and on hand) has been done to verify the DOD Quality Status List to determine if each product is within shelf life usability.
  - e. Confirm the consolidation of specification stock to reduce breathing and evaporation losses.
  - f. Comply with sample and test dormant stock as prescribed in latest approved MIL-STD-3004 Table IX.
  - g. Ensure adequate security includes specific and appropriate countermeasures against tampering, adulteration, substitution, contamination, and other actions that could make the fuel unusable or potentially damaging to the end user.
  - h. Ensure storage facility, petroleum products, and storage locations are properly marked and data safety sheets are readily available.


**Execute**

- +\* 8. Maintain communications with higher HQs, subordinate/adjacent elements during degraded or disrupted communication environments IAW unit TSOP.
- +\* 9. Petroleum Laboratory Team personnel continue to perform administrative functions as required IAW applicable policies and directives.
  - a. Confirm that the laboratory laptop is operational, operated with authorized software and antivirus definitions, never connected to the Global Information Grid (GIG) network or any external network, and is only used in Closed Restricted Network stand-alone mode.
  - b. Receive and process petroleum sample from supported unit.
  - c. Inspect petroleum lab equipment and facilities are adequate and serviceable IAW MIL STD 3004, state, local, and host-nation policies and procedures.
  - d. Ensure that petroleum sample tags contain all pertinent information for each sample and affixed to the container.
  - e. Assign priority of work to petroleum sample and properly document to the laboratory sample log book.
  - f. Maintain correlation samples until correlation process is complete and test results have been received.
  - g. Ensure labs separate different products or grades of the same sample and segregate products deemed as off-specification until test results verify fuel is suitable for use.
  - h. Maintain copies of the petroleum products log analysis reports.
  - i. Use the petroleum products log analysis report to record the quality clearance and submit off-specification products and required reports to higher HQs.
  - j. Report test results to higher headquarters with recommendations for use, reclamation, downgrading, or other disposition instructions from the Army Petroleum Center.


+ 10. Petroleum Officer, Petroleum Systems Technician, Petroleum Laboratory Supervisor, Platoon Leader, and/or Platoon Sergeant manage petroleum quality surveillance testing operations.

- a. Ensure petroleum products are properly circulated.
- b. Validate that fuel handling systems are inspected.
- c. Ensure that filter separator elements are inspected and replaced as required.
- d. Ensure petroleum laboratory is kept at 73.4 degrees Fahrenheit.
- e. Employ established laboratory safety procedures IAW current doctrine and publications.
- f. Confirm that sample log books are maintained by the laboratory.
- g. Certify that quality surveillance reports are reviewed and on-hand.
- h. Validate that petroleum product disposition recommendations are in accordance with federal, international, and military standards and guidance.
- i. Monitor laboratory tests of petroleum products for quality surveillance compliance with test procedures.
- j. Monitor preparation of test reports, laboratory sample log and test schedule.
- k. Review and forward laboratory analysis test and gain/loss of petroleum products reports to higher headquarters.
- l. Enforce environmental stewardship protection program procedures to minimize exposure to chemicals.


**Assess**

+\* 11. Petroleum Laboratory Leaders manage administrative functions as appropriate, directed, or required using troop leading procedures.

- a. Assess risk management process and make adjustments as mission requires.
  - b. Maintain communications with higher HQs, subordinate/adjacent elements IAW unit TSOP.
  - c. Monitor before, during, and after PMCS on organic equipment.
  - d. Enforce safety procedures, physical security and operations security (OPSEC) procedures at all times IAW internal and external TSOP's.
  - e. Ensure that all Army lab sites operate and sustain 100 percent compliance with environmental laws and regulations IAW unit TSOP's, host nation, local, state, and federal environmental directives and policies.
  - f. Ensure that Soldiers are trained to conduct mission operations in Offense, Defense, Stability, and Defense Support of Civil Authorities (DSCA) Operations.
12. Collect, review and consolidate logstat reports and forward to higher headquarters as required IAW TSOP.
- \* 13. Conduct After Action Review at the conclusion of all tactical mission to assess results and improve future operations.


Task Performance Summary Block										
Training Unit			ITERATION							
			1		2		3		4	
Date of Training per Iteration:										
Day or Night Training:			Day / Night		Day / Night		Day / Night		Day / Night	
			#	%	#	%	#	%	#	%
Total Leaders Authorized		% Leaders Present								
Total Soldiers Authorized		% Soldiers Present								
Total Number of Performance Measures		% Performance Measures 'GO'								
Total Number of Critical Performance Measures		% Critical Performance Measures 'GO'								
Live Fire, Total Number of Critical Performance Measures		% Critical Performance Measures 'GO'								
Total Number of Leader Performance Measures		% Leader Performance Measures 'GO'								
MOPP LEVEL										
Evaluated Rating per Iteration T, T-, P, P-, U										

**Mission(s) supported:** None

**MOPP 4:** Never

**MOPP 4 Statement:** This task is not intended to be performed in Mission-Oriented Protective Posture Level 4 (MOPP4). However, if necessary during an unexpected interim Chemical, Biological, Radiological, and Nuclear (CBRN) situation, ensure personal protective measures have been taken before proceeding with any measure to protect or decontaminate equipment. Failure to observe this precaution may result in serious illness, injury, or death to personnel by CBRN agents. Perform immediate operational or thorough decontamination procedures in accordance with applicable equipment TM's, CBRN doctrine, and unit TSOP as the mission, resources, and tactical situation permits. The CBRN Specialist should test unit equipment for levels of contamination after the all clear signal has been given and prior to resuming mission operations.

**NVG:** Never

**NVG Statement:** Night vision goggles are not required to conduct this task. However, they may be required when conducting sustainment unit operations, during moment, or Soldier duties as assigned.

**Prerequisite Collective Task(s):**

Step Number	Task Number	Title	Proponent	Status
	10-TM-0002	Establish Petroleum Laboratory Operations	10 - Quartermaster (Collective)	Approved
	71-TM-5100	Conduct Troop Leading Procedures	71 - Mission Command (Collective)	Approved

**Supporting Collective Task(s):**

Step Number	Task Number	Title	Proponent	Status
	10-CO-0003	Prepare Petroleum Laboratory for Certification	10 - Quartermaster (Collective)	Approved
	10-TM-0003	Conduct Petroleum Laboratory Operations	10 - Quartermaster (Collective)	Approved

**OPFOR Task(s):** None

**Supporting Individual Task(s):**

Step Number	Task Number	Title	Proponent	Status
2.	101-92L-4410	Plan Quality Surveillance Operations for Petroleum Facilities.	101 - Quartermaster (Individual)	Approved
2.	101-23A-6001	Implement Bulk Petroleum Quality Surveillance Programs (Brigade and Below)	101 - Quartermaster (Individual)	Approved
2.	101-92L-4406	Validate Laboratory Operations.	101 - Quartermaster (Individual)	Approved
9.	101-92L-1425	Prepare Petroleum Laboratory Analysis Reports	101 - Quartermaster (Individual)	Approved
10.	101-92L-4406	Validate Laboratory Operations.	101 - Quartermaster (Individual)	Approved
10.	101-23A-6001	Implement Bulk Petroleum Quality Surveillance Programs (Brigade and Below)	101 - Quartermaster (Individual)	Approved

**Supporting Drill(s):** None

**Supported AUTL/UJTL Task(s):**

Task ID	Title
ART 4.1.3.3.3	Provide Petroleum Quality Assurance and Quality Surveillance

**TADSS**

TADSS ID	Title	Product Type	Quantity
No TADSS specified			

**Equipment (LIN)**

LIN	Nomenclature	Qty
No equipment specified		

**Materiel Items (NSN)**

NSN	LIN	Title	Qty
No materiel items specified			

**Environment:** Environmental protection is not just the law but the right thing to do. It is a continual process and starts with deliberate planning. Always be alert to ways to protect our environment during training and missions. In doing so, you will contribute to the sustainment of our training resources while protecting people and the environment from harmful effects. Refer to the current Environmental Considerations manual and the current GTA Environmental-related Risk Assessment card. It is the responsibility of all Soldiers and Department of the Army civilians to protect the environment from damage. Army personnel must take care of the environment; that is, practice environmental stewardship. All operations conducted on Army installations will comply with federal, state, local and host-nation environmental requirements and Army regulations. Army personnel will sustain compliance at all sites in the U.S. and abroad, establishing good relationships with communities and regulators.

Environmental risk management consists of the following steps:

a. Identify Hazards. Identify potential sources for environmental degradation during analysis of METT-TC factors. This requires identification of environmental hazards. An environmental hazard is a condition with the potential for polluting air, soil, or water and or destroying cultural and historical artifacts.

b. Assess the Hazard. Analyze potential severity of environmental degradation using the Environmental Risk Assessment. Severity of environmental degradation is considered when determining the potential effect an operation will have on the environment. The risk impact value is defined as an



indicator of the severity of environmental degradation. Quantify the risk to the environment resulting from the operation as extremely high, medium, or low, using the environmental risk assessment matrixes.

c. Make Environmental Risk Decisions. Make decisions and develop measures to reduce high environmental risks.

d. Brief Chain of Command. Brief chain of command (to include installation environmental office, if applicable), on proposed plans and pertinent high-risk environmental matrixes. Risk decisions are made at a level of command that corresponds to the degree of risk.

**Safety:** In a training environment, leaders must perform a risk assessment in accordance with current Risk Management Doctrine. Leaders will complete the current Deliberate Risk Assessment Worksheet in accordance with the TRADOC Safety Officer during the planning and completion of each task and sub-task by assessing mission, enemy, terrain and weather, troops and support available-time available and civil considerations, (METT-TC). Note: During MOPP training, leaders must ensure personnel are monitored for potential heat injury. Local policies and procedures must be followed during times of increased heat category in order to avoid heat related injury. Consider the MOPP work/rest cycles and water replacement guidelines IAW current CBRN doctrine. Leaders must verify the structural soundness of all training and evaluation plans from a safety viewpoint. Leaders must conduct training at levels consistent with the abilities of the Soldiers being trained. They must instill an awareness of individual safety in all subordinate leaders and Soldiers. Soldiers must constantly be alert for and avoid situations that may result in injury or death.

Be aware of the following:

a. At the training site, leaders must establish training safety overview procedures. Safety procedures should emphasize the adherence to standards, consideration of environmental factors (for example, wet bulb), risk assessment, and factors contributing to and aiding in the prevention of accidents. Responsible individuals must know how to balance the risks against the training requirements and monitor conditions for safety and health hazards (to eliminate or control them). Leaders must ensure the welfare of their Soldiers in all situations.

b. Leaders must establish a buddy system for safety measures. Soldiers should maintain a safety watch on each other, with emphasis on individual safety training, and first aid responsibilities. All unsafe conditions and unsafe acts must be recognized and reported. Soldiers must be alert to human error and know the capabilities and limitations of the equipment and vehicles they use. Following the proper safety procedures preserves troop strength by preventing personnel losses through accidents.