

# Training and Evaluation Outline Report

**Status: Approved**

**06 Apr 2015**

**Effective Date: 17 Oct 2016**

**Task Number:** 05-TM-5519

**Task Title:** Maintain Underwater Pipelines

**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 Leonard Wood, MO 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
	ATP 3-34.40	General Engineering ( <a href="http://armypubs.army.mil/doctrine/DR_pubs/dr_a/pdf/atp3_34x40.pdf">http://armypubs.army.mil/doctrine/DR_pubs/dr_a/pdf/atp3_34x40.pdf</a> )	Yes	Yes
	ATP 5-19 (Change 001 09/08/2014 78 Pages)	RISK MANAGEMENT <a href="http://armypubs.army.mil/doctrine/DR_pubs/dr_a/pdf/atp5_19.pdf">http://armypubs.army.mil/doctrine/DR_pubs/dr_a/pdf/atp5_19.pdf</a>	Yes	No
	SS521-AG-PRO-010	U.S. Navy Diving Manual. Revision 6	Yes	No
	TM 3-34.83	ENGINEER DIVING OPERATIONS	Yes	No

**Conditions:** The dive team is directed to maintain an underwater pipeline in a secured area. The pipeline has been inspected and the report is available. References and applicable technical manuals are available. All assigned personnel and equipment, as well as any additional required materials are available. The work site has a sea state of three feet or less, a current of 2.5 knots or less, and a maximum depth of less than 190 feet.

Note: The Commander must still determine at what level of training they would want the element to perform. Crawl, walk or run. This can only be determined after consideration as to the units training level.

The Commander prior to evaluating an element in the conduct of the task must determine if it will be conducted in a Live, Virtual, or Constructive environment, additionally it must also be determined which condition as described below that the element will conduct the task. The selection made for this task is at a trained level of proficiency. The commander must determine which of the environments below will best suit the unit and the proficiency level at which the unit is. When conducting crawl or walk level training units should not increase the intensity until the unit has achieved the standards and then unit trainers should include variables that increase proficiency in all conditions.

Note: The condition statement for this task is written assuming the highest training conditions reflected on the Task Proficiency matrix required for the evaluated unit to receive a "fully trained" (T) rating.

Note: Condition terms definitions:

**Dynamic Operational Environment:** Three or more operational and two or more mission variables change during the execution of the assessed task. Operational variables and threat Tactics, Techniques, and Procedures (TTPs) for assigned counter-tasks change in response to the execution of Blue Forces (BLUFOR) tasks.

**Complex Operational Environment:** Changes to four or more operational variables impact the chosen friendly COA/mission. Brigade and higher units require all eight operational variables of Political, Military, Economic, Social, Infrastructure, Information, Physical environment, and Time (PMESII-PT) to be replicated in varying degrees based on the task being trained.

**Single threat:** Regular, irregular, criminal or terrorist forces are present.

**Hybrid threat:** Diverse and dynamic combination of regular forces, irregular forces, and/or criminal elements all unified to achieve mutually benefiting effects.

This task should not be trained in MOPP 4.

**Standards:** The dive team performs pipeline maintenance in accordance with applicable technical manuals and safety procedures to prevent damages requiring major repairs, without causing injury to personnel, or damaging equipment or the environment.

Note: Leaders are defined as the Commander, Executive Officer, First Sergeant, Operations Sergeant, Platoon Leaders, Platoon Sergeants, Squad Leaders, and Team Leaders.

**Live Fire Required:** No

**Objective Task Evaluation Criteria Matrix:**

Plan and Prepare		Execute					Assess	
Operational Environment	Training Environment (LW/C)	Training/Authorized % of Leaders Present at	% of Soldiers Present at	External Eval	% Performance Measures 'GO'	% Critical Performance Measures 'GO'	% Leader Performance Measures 'GO'	Task Assessment
SQD & PLT								
Dynamic (Single Threat)	IAW unit CATS statement:	>=85%		Yes	>=91%	All	>=90%	<b>T</b>
		75-84%	>=80%		80-90%		80-89%	<b>T-</b>
		65-74%	75-79%	65-79%			<b>P</b>	
Static (Single Threat)		60-64%	60-74%	No	51-64%	<All	<=79%	<b>P-</b>
		<=59%	<=59%		<=50%			<b>U</b>

**Remarks:** None

**Notes:** All required references and technical manuals will be provided by the local command.

**Safety Risk:** High

**Task Statements**

**Cue:** None

# DANGER

Leaders have an inherent responsibility to conduct Risk Management to ensure the safety of all Soldiers and promote mission accomplishment. Voice communications between the diver and dive supervisor are required when using powered tools under water.

## WARNING

Risk management is the Army's primary decision-making process to identify hazards, reduce risk, and prevent both accidental and tactical loss. All Soldiers have the responsibility to learn and understand the risks associated with this task. Use only approved diving gear suitable for the application where toxic hazards exist and where the surrounding water is contaminated and is a danger to the diver. Failure to comply may cause personal injury.

## CAUTION

Identifying hazards and controlling risks across the full spectrum of Army functions, operations and activities is the responsibility of all Soldiers. The surface-supplied diving system is preferable to scuba gear when working with powered tools.

### 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
+* 1. The diving supervisor organizes the maintenance operation.			
+* a. Develops a maintenance and inspection plan.			
* b. Requests required supplies.			
+ 2. The dive team performs maintenance on the pipeline.			
+ a. Surveys and determines the location of the pipeline.			
b. Uncovers any buried portions of the pipeline.			
+ c. Lubricates the valves.			
+ d. Actuates all the valves throughout their range of motion.			
e. Cleans and inspects the marker buoy.			
+* 3. The team leader prepares and submits reports.			
* a. Verifies that the required maintenance was performed.			
+* b. Completes the required maintenance documents.			
* c. Submits reports to Higher Headquarters (HQ) according to the unit Standing Operating Procedure (SOP).			

### TASK PERFORMANCE / EVALUATION SUMMARY BLOCK

ITERATION	1	2	3	4	5	M	TOTAL
TOTAL PERFORMANCE MEASURES EVALUATED							
TOTAL PERFORMANCE MEASURES GO							
TRAINING STATUS GO/NO-GO							

ITERATION: 1 2 3 4 5 M

COMMANDER/LEADER ASSESSMENT: T P U

Mission(s) supported: None

MOPP 4: Never

MOPP 4 Statement: None

NVG: Never

NVG Statement: None

Prerequisite Collective Task(s): None

Supporting Collective Task(s):

Step Number	Task Number	Title	Proponent	Status
	05-PLT-5507	Perform Surface-Supplied Diving Operations	05 - Engineers (Collective)	Approved
	05-PLT-5509	Perform Self-Contained Underwater Breathing Apparatus (Scuba) Operations	05 - Engineers (Collective)	Approved

OPFOR Task(s):

Task Number	Title	Status
71-2-9010	OPFOR Disrupt (Company and below)	Approved

Supporting Individual Task(s):

Step Number	Task Number	Title	Proponent	Status
	052-12D-1701	Rescue a Diving Casualty Underwater	052 - Engineer (Individual)	Approved
	052-238-1201	Conduct a Dive Using Surface Supplied Diving Equipment	052 - Engineer (Individual)	Approved
	052-238-1202	Conduct a Dive Using SCUBA Diving Equipment	052 - Engineer (Individual)	Approved
	052-238-1203	Conduct Contaminated Water Diving	052 - Engineer (Individual)	Approved
	052-238-1208	Inspect Underwater Pipeline Systems	052 - Engineer (Individual)	Approved
	052-238-1533	Navigate Underwater by Compass	052 - Engineer (Individual)	Approved
	052-238-1605	Set Up Arc Welding Equipment for Underwater Use	052 - Engineer (Individual)	Approved
	052-238-1606	Set Up Oxygen Arc-Cutting Equipment for Underwater Use	052 - Engineer (Individual)	Approved
	052-238-1607	Perform Underwater Photography	052 - Engineer (Individual)	Approved
	052-238-1630	Operate Arc Welding Equipment Underwater	052 - Engineer (Individual)	Approved
	052-238-1631	Operate Oxygen Arc-Cutting Equipment Underwater	052 - Engineer (Individual)	Approved
	052-238-1632	Operate a Hydraulic Power Unit	052 - Engineer (Individual)	Approved
	052-238-1633	Operate Hydraulic Tools Underwater	052 - Engineer (Individual)	Approved
	052-238-1639	Chart a Dive	052 - Engineer (Individual)	Approved
	052-238-1640	Operate a Diving Console	052 - Engineer (Individual)	Approved
	052-238-1641	Operate a Small Boat	052 - Engineer (Individual)	Approved
	052-238-1645	Charge an Air System	052 - Engineer (Individual)	Approved
	052-238-1652	Perform an Underwater Survey	052 - Engineer (Individual)	Approved
	052-238-1661	Operate a Diving Communications Station	052 - Engineer (Individual)	Approved
	052-238-2511	Direct the Setup of a Scuba Station	052 - Engineer (Individual)	Approved
	052-238-2512	Direct the Setup of a Surface-Supplied Dive Station	052 - Engineer (Individual)	Approved
	052-238-2514	Direct the Breakdown of a Scuba Station	052 - Engineer (Individual)	Approved
	052-238-2515	Direct the Breakdown of a Surface-Supplied Dive Station	052 - Engineer (Individual)	Approved
	052-238-3411	Conduct a Pre-dive Briefing of a Surface-Supplied Dive Station	052 - Engineer (Individual)	Approved
	052-238-3412	Select a Decompression Method	052 - Engineer (Individual)	Approved
	052-238-3413	Supervise a Scuba Dive Station	052 - Engineer (Individual)	Approved
	052-238-3414	Supervise a Surface-Supplied Dive Station	052 - Engineer (Individual)	Approved
	052-238-3416	Calculate Breathing Gas Requirements to Support Diving Operations	052 - Engineer (Individual)	Approved
	052-238-3431	Conduct a Pre-dive Briefing of a Scuba Dive Station	052 - Engineer (Individual)	Approved
	052-238-3443	Supervise Underwater Inspection	052 - Engineer (Individual)	Approved
	052-238-3447	Supervise a Scuba Dive	052 - Engineer (Individual)	Approved
	052-238-3448	Supervise a Surface-Supplied Dive	052 - Engineer (Individual)	Approved
	052-238-3459	Supervise Underwater Survey Operations	052 - Engineer (Individual)	Approved
	052-238-4508	Prepare a Diving-Mission Operation Order (OPORD)	052 - Engineer (Individual)	Approved
	052-238-4526	Monitor Underwater Construction and Repair Operations	052 - Engineer (Individual)	Approved

**Supporting Drill(s):** None

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

Task ID	Title
ART 1.6.4	Provide Diver Support

**TADSS**

TADSS ID	Title	Product Type	Quantity
No TADSS specified			

**Equipment (LIN)**

LIN	Nomenclature	Qty
D32723	DIV EQ ST OPEN CIR	1
N96248	Navigation Set: Satellite Signals AN/PSN-13	1
D49154	DIV EQ ST IND SWMMR	1
P34402	OUTBOARD MOTOR GAS	1
B84293	Boat Landing Craft Inflatable: 7 Person	1
D32927	DIV EQ ST DIV SUP B	1

**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. .

**Safety:** In a training environment, leaders must perform a risk assessment in accordance with ATP 5-19, Risk Management. 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 FM 3-11.4, Multiservice Tactics, Techniques, and Procedures for Nuclear, Biological, and Chemical (NBC) Protection, FM 3-11.5, Multiservice Tactics, Techniques, and Procedures for Chemical, Biological, Radiological, and Nuclear Decontamination. .