



Chapter 5

UXO Clearance Procedure

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1. Introduction

UXO area clearance by Silavan UXO Survey and Clearance and Ordnance Disposal Company Limited (abbreviated SLV). Is the clearance of land suspected of contaminated UXO within the area specified by the customer and the area is free of mines. Land clearance may include both surface and underground clearance.

2. Scope

UXO area clearance of Silavan UXO Survey, Clearance and Ordnance Disposal Co., Ltd. (abbreviated as SLV). Is the clearance of land suspected of containing UXO within the area specified by the customer and the area is free of mines. Land clearance may include both surface and underground clearance.

3. Supervision of unexploded ordnance clearance work

a. Supervisor qualifications

The personnel who will be in charge of one clearance work must be a Level **2** clearance technician and the personnel who will supervise the clearance work must be a Level **3** clearance technician or higher. This qualification is based on Chapter **8** of the National Standard.

b. Clearance supervisor.

For the clearance work of Silavan UXO Survey, Clearance and Ordnance Disposal Co., Ltd (abbreviated SLV), **1** supervisor can supervise **8** work sites. The word “work site” in this operating standard means the place where the clearance workers carry out the clearance work in the field, which may be **1, 2** or **3** clearance workers together (in the case of using a large loop detector). At that point, when only a Level **2** clearance technician supervises the clearance work, the company must ensure that there is always the assistance of a Level **3** technician.

Note:

- 1** If there is an incident that requires the assistance of a Level 3 technician at the site, activities related to the matter requiring assistance must be stopped until the Level 3 technician arrives.
- 2** In cases where there are only several Level 2 technicians supervising the work at the same site without a Level 3 technician on site, one Level 2 technician will be appointed as the leader at that site.

4. General requirements

4.1 Activities in the clearance site prior to clearance.

For UXO clearance operations in the Lao PDR, clearance operators are permitted to enter and move around the area to be cleared prior to clearance. Such permission is only granted if it is confirmed that the site does not present any hazards or risks to the operators, such as mines, booby traps or high-risk explosive devices.

This confirmation may be obtained from technical surveys, information from local residents, current land use or reliable information.

- a. Operators operating in the clearance site shall inspect the area in front of them to avoid trampling or disturbing UXO on the surface.
- b. Do not dig or drive stakes into the ground unless they have been checked with a metal detector and confirmed to be safe.

4.2 Distance between Clearance Technicians.

The clearance distances specified in this section apply only to personnel working on land clearance. For UXO clearance of Silavan UXO Survey, Clearance and Ordnance Disposal Co., Ltd (abbreviated SLV), personnel using UXO detection and excavation equipment are permitted to perform the following operations:

- a. Single operation, where one technician performs both the detection and excavation tasks simultaneously.
- b. Pair operation, where one technician performs the detection and the second technician performs the excavation.

The minimum distance between a lone UXO clearance technician (as defined in clause A) or a UXO clearance technicians working in pairs (as defined in clause B) and other technicians operating in the clearance area shall not be less than **10** meters when more than two personnel are required.

To perform UXO clearance tasks safely, efficiently, and effectively, more than two personnel may be used to perform the task, but the efforts should be made to use the minimum number of technicians necessary.

4.3 Personal protective equipment

UXO Clearance by Silavan UXO Survey and Clearance and Ordnance Disposal Co., Ltd (abbreviated SLV) does not require the wearing of special personal protective equipment. Employees performing UXO clearance tasks on the land of Silavan UXO Survey Clearance and Ordnance Disposal Co., Ltd (abbreviated SLV) must wear or wear only the uniforms, hats and shoes provided by the company.

Workers using lawn mowers must wear a hard hat, goggles, front leg shield protection, and sturdy shoes to protect themselves from rocks, dirt, or wood chips that may be thrown at them from the grass cutting machine.

4.4. Basic requirements for UXO clearance

The clearance unit of Silavan UXO Survey Clearance and Ordnance Disposal Co., Ltd (abbreviated SLV). It has its own equipment, vehicles, medical supplies and sufficient communication tools for the clearance unit. Before starting the clearance operation, the clearance supervisor must be responsible for ensuring that:

- a. The team is aware of the tasks to be performed
 - b. The team's equipment is sufficient and complete.
 - c. Are the equipment and vehicles still in good working order (see Section 01 of the Silavan UXO Survey Clearance and Ordnance Disposal Co., Ltd (Abbreviated SLV).
 - d. Are the communication systems still in good working order (see Section 08 of the Silavan UXO Survey Clearance and Ordnance Disposal Co., Ltd (Abbreviated SLV).
 - e. Prepare a contingency plan (see Section 09 of the Silavan UXO Survey Clearance and Ordnance Disposal Co., Ltd (Abbreviated SLV).
 - f. Necessary medical support See Section 09 of the Silavan UXO Survey Clearance and Ordnance Disposal Co., Ltd (Abbreviated SLV).) The unit has food, drinking water, fuel, explosives and batteries for work or spares to replace in case of damage or unusable items.
- d. Important documents must be prepared such as: maps, Survey report and clearance plan. A copy of the blank report to be completed by the task supervisor must also be carried. (See the Standard of Practice Section 10 of the Silavan UXO Survey Clearance and Ordnance Disposal Co., Ltd (Abbreviated SLV).

5. Preparation of the clearance site.

The detailed requirements for determining the clearance site are specified in Section 3 of the Silavan UXO Survey Clearance and Ordnance Disposal Co., Ltd (Abbreviated SLV). Standard. entitled "Preparation of the clearance site".

6. Clearance requirements

Clearance requirements for clearance by Silavan UXO Survey Clearance and Ordnance Disposal Co., Ltd (Abbreviated SLV) are determined by the customer. Specific details such as depth of clearance, area to be cleared and quality of clearance are specified

7. Depth of clearance

The depth of clearance is determined based on the client's land use objectives and in some cases, only surface clearance may be required.

Within a clearance site, clearance at different depths may be required.

8. Quality of Clearance

The quality of clearance of Silavan UXO Survey Clearance and Ordnance Disposal Co., Ltd (Abbreviated SLV) is as follows:

- a. Surface clearance. All unexploded ordnance found with the naked eye must be removed/destroyed from the surface of the area to be cleared.

- b. Subsurface clearance. Explosives of a size equal to or larger than **26** half-BLU 26 must be cleared from the surface of the area to be cleared at the required depth and within the capabilities of the metal detector.

All signals detected by the metal detector must be carefully examined throughout the entire range of the signal, regardless of depth, to ensure that the signal is not caused by UXO.

9. Landmines found during UXO clearance.

If a mine is found during clearance, the clearance team must stop work immediately and evacuate personnel to a safe location. The clearance supervisor will then assess the situation and determine whether the mine is a general remnant mine or part of a minefield. If it is determined to be part of a minefield, clearance at the site must be stopped and the client or landowner must be notified. The company must also report the basic information about the minefield to the NRA Office.

10. Clearance Methods and Procedures

10.1 Surface Clearance.

Surface clearance is a system of clearing UXO located on the ground within a defined area. It includes surface clearance before mowing/weeding before clearance. Surface clearance is usually carried out to support other forms of clearance. Before surface clearance, the boundaries of the area to be cleared must be clearly marked and the area divided into squares according to the actual area to facilitate the command during clearance. Surface clearance depends on many factors such as: ground conditions, weather conditions and the number of clearance operators. Surface clearance can usually be carried out in two ways:

- A. Divide the area to be searched into large squares and conduct a back-and-forth search until the entire area has been searched.
- B. Divide the search area into small sections to accommodate the number of available clearance personnel and proceed with the search one section at a time until all sections are filled. Surface clearance by Silavan UXO Survey Clearance and

Ordnance Disposal Co., Ltd (abbreviated SLV). The following requirements must be met:

- a. The spacing of the clearance operator is based on the terrain conditions, but it must be ensured that the clearance operator is not too far apart and can see each other. In dense forest areas, the spacing between clearance personnel should not exceed **10** meters.
- b. The forward and lateral movement of clearance personnel is strictly controlled by the clearance supervisor.
- c. Where clearance personnel move back and forth in large sections, a clear marking system should be used between cleared and uncleared areas to allow for the progress

of the inspection. Markers should be placed every **5** meters and a metal marker should be used before marking.

- d. When an explosive is found, it must be reported to the supervisor. All explosives found must be inspected and destroyed by the supervisor as specified in the Operational Standard of Operation Standard **6** of Silavan UXO Survey Clearance and Ordnance Disposal Co., Ltd (abbreviated SLV). on “Explosives Destruction”.
- e. Record the clearance accurately.
- f. Where there is thick brushwood that cannot be seen with the naked eye, **1-2** deminers with metal detector will be used to search through the brushwood.

Clearance Standards:

Clear and destroy all UXO found with the naked eye within a specified area.

10.2 Shallow clearance

Shallow clearance conducted by Silavan UXO Survey Clearance and Ordnance Disposal Co., Ltd (abbreviated SLV) may use a single or double deminers. Clearance deminers may use the following methods:

- a. Single clearance, performing both the search and digging/pinching tasks.
- b. Clearance in pairs, with one person doing the search and the other doing the digging/pinching. Before any clearance, the area must be marked, the site must be properly organized, and the area divided into squares (boxes) for ease of management. In addition, all vegetation in the site must be removed.

The clearance methods specified in this section apply to single clearance methods. If a pair clearance is used, one person will operate the detector and the other person will be the digging person based on the signal received by the metal detector.

The details are as follows:

- A. Create a 1-meter-wide clearing lane.
- B. Use a metal detector to search along the created clearing lane by:
 - ☐ The detector head must be parallel to the ground and raised more than **5** centimetres above the ground.
 - ☐ The speed of the detector head should be constant
 - ☐ The search of clearing lane should be carried out half-way between the detector heads.
 - ☐ The side of the clearing lane should be carried out half-way between the detector heads.
- C. If the detector detects an object, locate the exact spot (pinpoint) and mark it.
- D. Use a shovel or spade to carefully search for the object. Start digging **10-15** centimeters behind the mark and gradually dig towards the object
 - ☐ If no object is found, use the detector to search for the object again.

- ☐ If a metal scrap/fragment is found, remove it and use the detector again to ensure that no UXO remains at the depth of the clearance.
 - ☐ If UXO is found, the deminer must report it to the team leader immediately.
 - ☐ All metal scrap or metal fragments found must be removed to facilitate quality control.
- E. The team leader will verify and consider whether the UXO found is safe and can be moved. If it can be moved, the UXO will be moved to an UXO storage facility to await destruction. Then, the detector will be used to re-examine the site where the UXO was removed to ensure that no UXO remains under the site.
- F. If the UXO found cannot be moved, the UXO must be destroyed in situ and clearly marked using a **1-meter-long, 70-centimeter-long** red stick stuck to the front of the UXO in the appropriate direction.
- G. The team leader will decide whether to continue clearing the area where the UXO was found. The methods outlined above may be adjusted to suit the actual conditions of each site. When deminer working alone or in pairs must leave the clearing area for breaks or daily work, the cleared area must be marked with a **50 cm** long red marker nailed to the cleared area.

The entire area will continue to be inspected until completed. UXO found during clearance will be destroyed in accordance with the operating standards of Chapter 6 of the Silavan UXO Survey Clearance and Ordnance Disposal Co., Ltd (abbreviated SLV). on “Explosive Ordnance Disposal” and national standards.

UXO Clearance standards

Clear and destroy UXO larger than or equal to half-BLU 26 from the cleared area to the specified depth and capability of the detector (standard depth is 25 cm). UXO buried deeper than the specified depth may also remnants.

Note: The area cleared to the specified depth will be specified in the “Clearance Completion Report” and marked on the field.

11. Deep clearance with “FORESTER FROM GERMANY”.

Deep clearance is used to use the depth of the clearance that has been done before, so that the land can be used more widely. In order to make deep clearance effective, it is necessary to do shallow clearance first so that the shallow clearance can remove the existing metal first. In some fields, if there is not much metal debris, deep clearance with a FORESTER detector may be used. Deep clearance at Silavan UXO Survey Clearance and Ordnance Disposal Co., Ltd (abbreviated SLV). Use 2 people, 1 person to carry the detector and 1 person to detect the UXO and command it. In cases where it is not possible to use a metal detector to detect UXO in any area of the shallow clearance work, it is necessary to carry out manual clearance (without using a detector) using a method of digging the entire area where the detector cannot be used at a depth of 25 centimetres.

12. Non-standard cases

When the team leader of Silavan UXO Survey Clearance and Ordnance Disposal Co., Ltd (abbreviated SLV). Faced with a situation not specified in these operating standards, they must report it to the Chief Operations Manager who is supervising the task. The Chief Operations Manager who is supervising the task will consider appropriate ways to deal with non-standard cases, taking into account the safety of land users as the main consideration

13. Explosive Ordnance Disposal

UXO found at the clearance site will be destroyed daily or on weekends, as appropriate. Explosive Ordnance Disposal is in accordance with the Company's Chapter 6 Standard Operating Procedures and National Standards.

Demolitions in or near the clearance site using metal detectors should take into account the standard for preventing debris from falling onto the clearance site. If UXO is found in excess of the clearance supervision level, it should be reported to the Company's Level 4 Explosive Disposal Technician or requested for assistance in destroying the UXO found.

14. Metal detector inspection

When metal detectors are used in clearance operations by Silavan UXO Survey Clearance and Ordnance Disposal Co., Ltd (abbreviated SLV). The metal detectors shall be tested according to the factory specifications each time the detector is turned on and when the detector changes hands. This is to ensure that the metal detectors are still functioning properly. Regular testing shall also be carried out during clearance operations.

The metal detectors shall be tested before each daily use. Each clearance site shall establish a specific area for testing the metal detectors near the site. Generally, the target is Bombi 26 (BLU 26).

- A. For metal detectors using shallow detection, the test shall be carried out with a half-empty Bombi 26 shell buried in metal-free soil to a depth of at least 25 cm.
- B. For the Large Loop detector, the test is performed with 26 half-empty shell buried in metal-free soil to a depth of at least 50 cm.

15. Equipment of Clearance technicians

Deminer, whether working alone or in pairs, must be provided with sufficient and appropriate equipment to enable them to carry out their work safely and efficiently. The minimum equipment provided should include: shovels, spades, rakes, scrap metal buckets, ropes, cleaning equipment and equipment bags.

16. Clearance site documentation

The team leader is responsible for maintaining field records and maintaining them at the site throughout the clearance process. Field records of Silavan UXO Survey Clearance and Ordnance Disposal Co., Ltd (abbreviated SLV) include the following:

- a. Copies of proposals, contracts and reports related to the work, including survey reports.
- b. Daily clearance records
- c. Maps of the area to be cleared.
- d. Patient movement plans including the blood group of the personnel.

- e. Quality inspection reports.
- f. Visitor visit records.
- g. Communication information such as radio frequency and specific telephone numbers.

17. Visitors

Persons who are not employees of Silavan UXO Survey Clearance and Ordnance Disposal Co., Ltd (abbreviated SLV) when granted permission to visit the clearance of Silavan UXO Survey Clearance and Ordnance Disposal Co., Ltd (abbreviated SLV) must listen to a briefing on safety regulations upon arrival and before entering to monitor and view the clearance site. The content of the briefing is provided in the appendix to A this chapter.

18. Coordination with local people

Before clearance, the clearance unit of Silavan UXO Survey Clearance and Ordnance Disposal Co., Ltd (abbreviated SLV) responsible for clearance work must coordinate and inform local authorities and communities as specified in the Standard Operating Procedures, Section 7, Standard Operating Procedures 3 of Silavan UXO Survey Clearance and Ordnance Disposal Co., Ltd (abbreviated SLV). on “Preparation of the clearance site”. Minutes of consultations or meetings with local authorities or people should be kept with the clearance site documents

Attached document A

Brief summary of the clearance site and safety

1 Brief summary of the field

A summary of the clearance site report should include the following:

- a. A brief history of the area surrounding the clearance site, including the impact of UXO on the local community. Any accidents or incidents involving people or livestock.
- b. Post-clearance land use, including details of the donor or contractor for the clearance.
- c. A work plan including:
 1. Size of the area to be cleared
 2. Depth of clearance.
 3. Quality of clearance
 4. Methods and equipment used for clearance.
 5. Time frame for completion of the work.
- d. Progress of clearance to date including:
Number of days worked. Area cleared, UXO detected. Estimated completion date and any problems encountered during the operation.
- e. The clearance plan includes:
 1. Site plan
 2. Marking system used
 3. Location of safe access routes or official access routes to the site.
 4. Areas cleared and areas not yet cleared.
 5. Location of field medics.
 6. Parking areas (clearance vehicles, medical vehicles, guest vehicles)
 7. Location of toilets, showers and rest areas.
- f. Details of areas to be included in the safety brief during a site visit to the site, you must follow the following rules:
 1. You must obey and follow all instructions given to you by me or your supervisor.
 2. You must remain with your supervisor at all times. You will not be allowed to move around the site on your own.
 3. Only walk in areas where your supervisor has instructed you.
 4. Do not touch objects on the ground.
 5. Smoking is only permitted in the rest areas.
 6. In the event of an accident or incident, you must strictly follow the instructions of your supervisor. If you have any questions or need to discuss, please leave the clearing area first.

Thank you

Attached document B

Request for Site Visitor Disclaimer

1. Instructions to Visitors

All visitors to Silavan UXO Survey Clearance and Ordnance Disposal Co., Ltd (abbreviated SLV) must listen to a brief report on the site conditions and safety issues. After listening to the report, visitors must read the site visitor's disclaimer and fill in and sign the table shown below:

The site supervisor must then sign the appropriate section below the table to confirm that the site conditions and safety issues have been reported to the visitors and to witness the visitors signing the table. The completed visit report will be kept with the site documentation at the site.

2 Visitor Disclaimer

All visitors who visit the site do so at their own risk.

Silavan UXO Survey Clearance and Ordnance Disposal Co., Ltd (abbreviated SLV) shall not be liable for any injury or damage to property of any visitor that may occur during or after the visit.

I understand the above and confirm that:

a. I have fully listened to the briefing on the site and safety and understand the contents as proposed in the report and agree to comply with all the proposed regulations.

b. I, on behalf of "Name of Organization", hereby confirm that I will not be held responsible for any accident or incident that may occur during the visit, whether due to the actions of other visitors, the clearance operation or my own actions.

c. I, on behalf of "Name of Organization", hereby further declare that in the event that I am injured or my personal property is damaged during or after the visit as a result of the visit. If such an accident or incident occurs and results in injury to any of my staff, I authorize the clearance organization's medical personnel to treat and evacuate the injured as appropriate to preserve life and minimize the injury of the injured.

d. I hereby confirm that all the information I have provided in the table below is true and accurate.

S/N	Name and Surname	Organisation	Blood group	Signature
1.				
2.				
3.				
4.				
5.				
6.				

I hereby certify that the above visitors have heard a report on the condition of the landfill and safety in accordance with the attached document of the Company's operating standards and hereby certify that the signatures in the table above are truly my own.

Name.....Position.....Signature.....