

IGNITION, BURNING, AND FLASHING
OF EXPLOSIVES AND EXPLOSIVE-CONTAMINATED MATERIAL

TA 16
I. SCOPE

The procedures outlined in this SOP will be followed in igniting and burning or flashing all materials at the burning ground.

II. LOCATION

Burning Pits TA-16-387, 388, and 399; Filter Beds TA-16-392 and 394; Pressure Filters TA-16-401 and 406; Control Shelter TA-16-389; and Gate, Structure TA-16-349.

III. LIMITS

A. Personnel

Two

B. Explosives

See Group WX-3 SOP for particular disposal operation

IV. ALLOWABLE EXPLOSIVES

Explosives approved for disposal by WX-3 are those listed in Tables 1 and 2 of WX-3 SOP 1.1.0.

V. EQUIPMENT

A. Burning ground firing circuit (ENG-C-23444)

B. Periscope (13Y-101920)

C. Blasting machine (US Army, 10-cap capacity) White-Rodgers Electric Co., Type 6901, Number 1.

D. Squibs (S-94) WX-3 Code Number 225-03, or similar DuPont S-series squibs.

E. Blaster's Multimeter, Model 101.

*Indicates Change



VI. MATERIALS

- A. Excelsior
- B. Kerosene

VII. AREA CLEARANCE

When the Disposal Crew Leader in charge of operations has determined that a burning area has been satisfactorily loaded and is ready to be burned, a check of the burning ground will be made. Personnel who are to remain during the burning operation will assemble in the control shelter. All others will leave the area. An operator will check to make sure that the gate on the access road (Structure 349) is closed. If it is open, he will notify the Disposal Crew Leader and another check of the area will be made before the burning operation continues. If it is closed, the operator will return to the control shelter.

VIII. PROCEDURE

- A. A permanent selective firing circuit is installed at the burning ground. The master controls are located inside Control Shelter 389. Proper setting of the controls directs an electrical pulse that will fire the ignition squibs at any one of the burning areas. The permanent firing circuit will always be used for igniting the squibs at the burning ground except in cases of power outage or circuit failure. In that event, it will be permissible to use the blasting machine to ignite the squibs.
- B. All motor vehicles at the burning ground will be parked at Control Shelter 389 with their radios turned off.
- C. The Disposal Crew Leader will check the radio located in the control shelter to make sure that it is turned off.
- D. Ignition and Burning
 - 1. The Disposal Crew Leader will determine that the firing controls are locked in the OFF position. He will keep the key to the lock in his possession during the remainder of the burning operation.
 - 2. Squibs, excelsior, and kerosene will then be collected at Control Shelter 389.
 - 3. The Disposal Crew Leader and one operator will proceed on foot to the material to be burned with the materials listed in Item D.2, above.

VIII. D. (cont.)

4. The Disposal Crew Leader will check the circuit breaker in the terminal box at the burning area to make sure it is in the GROUND position and that the alligator clips are disconnected from the two lead wire reels.
5. An ignition train will be prepared by putting a wad of excelsior about 40 cm (16 in.) long on the material to be burned. The excelsior will be dampened with kerosene. The ignition train must be arranged so that both it and the explosives burn toward the direction from which the wind is blowing.
6. The Disposal Crew Leader will remove enough wire from the two reels located in the terminal box to reach the ignition train. He will return to the terminal box and connect the end of each lead wire to one of the two alligator clips in the box. The circuit is then ready for two squibs to be spliced in parallel to the end of the wires. The spliced wires must be kept separated. If there is danger of the splices touching the explosive or some conductor, it must be insulated with electrician's tape.
7. The squibs will be placed in the excelsior so that the squibs, when fired, will light the ignition train.
8. The circuit breaker in the terminal box at the burning area will be thrown to the fire position.
9. A continuity check will be made on the squib circuit from the terminal box outside the fence of the burning pit by using the approved multimeter.
10. The Disposal Crew Leader and operator will proceed to the control shelter.
11. The Disposal Crew Leader will follow the following sequence in firing the squibs:
 - a. Unlock the firing controls and rotate the selector switch to the number that corresponds to the identifying number of the area being burned.
 - b. Turn the circuit breaker switch behind the fire button to the ON position.

VIII. D. 11. (cont.)

- c. Press the fire button to energize the circuit.
 - d. Check to see whether the ignition train has ignited by using the periscope located in the control shelter.
12. If the materials fail to burn, the Disposal Crew Leader will proceed as follows:
- a. Repeat firing procedure
 - b. Safe firing circuit
 - c. Wait 30 minutes and then, after surveying the area with the periscope, proceed to the area and inspect the squibs and other parts of the firing system.
 - d. When necessary the used squibs may be replaced by new ones, and the appropriate parts of Item VIII.D.4 through 11, above, may be repeated.
 - e. Faulty squibs will be collected for subsequent disposal by flashing with other HE-contaminated unburnable material, in accordance with WX-3 SOP 12.3.6.
13. Each time that a failure occurs, the Disposal Crew Leader will safe the firing circuit and wait for at least 30 minutes before proceeding to inspect the squibs and other parts of the firing circuit.
14. When it has been determined that the ignition train has ignited, the Disposal Crew Leader will:
- a. Rotate the selector switch to the OFF position,
 - b. Lock the firing controls, and
 - c. Turn the circuit breaker switch behind the fire button to the OFF position.
15. The vehicle radios and the radio located in the control shelter may then be turned on.
- * 16. When the materials that are being burned have been reduced to a smoldering condition, the crew may leave the burning ground. A minimum of 24 hours must lapse after burning, before ashes and other debris can be collected. Ashes will be disposed of in accordance with SOP 12.1.0., paragraph VI.R.1 and 2.

VIII. D. (cont.)

17. The key for the firing control circuit will be placed in the squib storage box in the storage room at the control shelter. The key will always be kept in this box when not in the possession of the Disposal Crew Leader.
18. A record of each burn will be noted on Form WX-3-70.

E. Use of Blasting Machine

1. Preparation

- a. In the event that the burning ground selective firing circuit is inoperative and the explosive material is of such a nature that its destruction is urgent, the blasting machine may be used to ignite the squibs.
- b. No part of the selective firing circuit will be used in conjunction with the blasting machine.
- c. A temporary firing wire will be laid along the ground from the control shelter to the area to be burned. The Disposal Crew Leader will positively connect the bared ends of the firing wire at the control shelter and the burning area to get rid of any static electricity that may have accumulated in the wire.
- d. The Disposal Crew Leader must have the blasting machine in his possession at all times during the rest of the burning operations, as described in the following paragraphs.

2. Ignition and Burning

- a. The blasting machine, squibs, excelsior, and kerosene will be collected at Control Shelter 389.
- b. The Disposal Crew Leader and one operator will proceed on foot to the material to be burned with the materials listed in Item E.2.a, above.
- c. An ignition train will then be prepared by putting a wad of excelsior about 40 cm (16 in.) long on the material to be burned. The excelsior will be dampened with kerosene. The ignition train must be arranged so that both it and the explosives burn toward the direction from which the wind is blowing.

VIII. E. 2. (cont.)

- d. The Disposal Crew Leader will then connect two squibs to the temporary firing line and will make sure that the squibs are wired in series. The spliced wires must be kept separated. If there is danger of the splices touching the explosive or some conductor, it must be insulated with electrician's tape.
- e. The squibs will then be placed in the excelsior so that the squibs, when fired, will light the ignition train.
- f. The Disposal Crew Leader and operator will then proceed to the control shelter.
- g. The Disposal Crew Leader will fasten the lead wires to the blasting machine and energize the circuit.
- h. The Disposal Crew Leader, or his alternate, will then check to see whether the ignition train is ignited by using the periscope in the control shelter.
- i. If the materials fail to burn, the Disposal Crew Leader shall proceed as follows:
 - (1) Disconnect the blasting machine and positively connect the bared ends of the wire to get rid of any residual electrical charge in the circuit.
 - (2) Repeat firing procedure.
 - (3) Wait 30 minutes and then, after surveying the area with the periscope, proceed to the area and inspect the squibs and other parts of the firing system.
 - (4) When necessary, the used squibs may be replaced by new ones, and the appropriate parts of Item VIII.E.2.a through g, above, may be repeated.
 - (5) Faulty squibs will be collected for subsequent disposal by flashing with other HE-contaminated unburnable material, in accordance with WX-3 SOP 12.3.6.

III. E. 2. i. (cont.)

(6) Each time that a failure occurs, the Disposal Crew Leader will disconnect the bared ends of the wire to get rid of any residual electrical charge in the circuit. Wait 30 minutes before proceeding to inspect the squibs and other parts of the firing circuit.

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- j. When the materials that are being burned have been reduced to a smoldering condition, the crew may leave the burning ground. A minimum of 24 hours must lapse after burning before the ashes and other debris can be collected. The pad will be cleaned following the procedures outlined in VIII.D.16, above.
- k. The vehicle radios and the radio in the control shelter may then be turned on.
- l. The blasting machine will be placed in the squib storage box in the storage room at the control shelter. The blasting machine will always be kept in this box when not in the possession of the Disposal Crew Leader.
- m. A record of each burn will be noted on Form WX-3-70.

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