EO C290.04 – COLLECT DRINKING WATER USING A SOLAR STILL

1. **Performance**: Collect Drinking Water Using a Solar Still

2. **Conditions**:

   a. Given:

      (1) Clear plastic bags;

      (2) Cup or pail;

      (3) Shovel;

      (4) Supervision; and

      (5) Assistance as required.

   b. Denied: N/A.

   c. Environmental: Field setting during the day large enough to accommodate the entire group.

3. **Standard**: In accordance with specified references and as a member of a group of no more than five, the cadet shall collect drinking water using a solar still by:

   a. selecting an appropriate site;

   b. constructing the solar still;

   c. collecting water (as time allows); and

   d. disassembling the solar still.

4. **Teaching Points**:

TP	Description	Method	Time	Refs
TP1	Explain how to find an appropriate collection site by digging a hole in the ground.	Interactive Lecture	5 min	
TP2	Demonstrate the construction of a solar still, to include: a. digging a hole; b. placing a collecting can in the centre of the hole; c. covering the hole with a sheet of plastic formed into a cone; d. weighing down the edges of the plastic sheet; and e. placing a stone in the centre of the bottom of the plastic sheet above the collecting can.	Demonstration	15 min	C3-002 (p. 42) C3-003 (p. 151)
TP3	Explain how water condensation from the ground, to the underside of the plastic sheet, to the collecting can works.	Interactive Lecture	5 min	C3-002 (p. 42) C3-003 (p. 151)
TP4	Have the cadets in groups of no more than five construct a solar still.	Performance	25 min	

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TP	Description	Method	Time	Refs
	Note: The stills can remain overnight to collect water.			
TP5	Disassemble the solar still and fill in the hole.	Performance	5 min	

5. **Time**:

a.	Introduction / Conclusion:	5 min
b.	Interactive Lecture:	10 min
c.	Demonstration:	15 min
d.	Performance:	30 min
e.	Total:	60 min

6. **Substantiation**:

   a. An interactive lecture was chosen for TP1 and TP3 to present basic material and give direction on procedures.

   b. Demonstration was chosen for TP2 as it allows the instructor to explain and demonstrate building a solar still.

   c. Performance was chosen for TP4 and TP5 as it provides an opportunity for the cadets to practice the skill under supervision.

7. **References**:

   a. C3-002 (ISBN 0-00-653140-7) Wiseman, J. (1999). *The SAS Survival Handbook.* Hammersmith, London: HarperCollinsPublishers.

   b. C3-003 (ISBN 1-896713-00-9) Tawrell, P. (1996). Camping and Wilderness Survival: The Ultimate Outdoors Book. Green Valley, ON: Falcon Distribution.

8. **Training Aids**:

   a. Clear plastic bags;

   b. Cup or pail; and

   c. Shovel.

9. **Learning Aids**:

   a. Clear plastic bags;

   b. Cup or pail; and

   c. Shovel.

10. **Test Details**: N/A.

11. **Remarks**: The solar still must remain in place overnight as both the heat from the sun and the cool air at night are required for the water condensation process to occur. For scheduling purposes, TP1 to TP4 will be done on day one of the schedule and TP5 will occur on day two.

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