

## 2.2.10 Documentation Diver

### 2.2.10.1 Course Outcomes

GUE's Documentation Diver course is designed to introduce divers to sound documentation techniques that are useful in project-based diving. Other course outcomes include: basic training in photography/videography, the use of related equipment, specific team skills needed during documentation diving, specific communication requirements, establishment of clear objectives and work plans, management of team tasks, how to create a report, how to map, survey, and prepare material for media publication.

### 2.2.10.2 Prerequisites

Applicants for a Documentation Diver course must:

- a. Submit a completed Course Registration Form, Medical History Form, and Liability Release Form to GUE HQ.
- b. Hold insurance that will cover diving emergencies such as hyperbaric treatment, e.g., DAN Master-level insurance or equivalent.
- c. Be physically and mentally fit.
- d. Be a nonsmoker.
- e. Obtain a physician's prior written authorization for the use of prescription drugs, except for birth control, or for any medical condition that may pose a risk while diving.
- f. Be a minimum of 16 years of age. Documented parental or legal guardian consent must be submitted to GUE HQ when the participant is a minor.
- g. Be a certified GUE Recreational Diver Level 1 or GUE Fundamentals diver.
- h. Have completed at least 25 non-training dives beyond either GUE Recreational Diver Level 1 or GUE Fundamentals certification.
- i. Have completed at least 75 non-training dives beyond autonomous scuba diver certification.

### 2.2.10.3 Course Content

The Documentation Diver course is normally conducted over four days. It requires a minimum of four dives and at least thirty-two hours of instruction, encompassing classroom lectures, land drills, and in-water work.

### 2.2.10.4 Documentation Diver Specific Training Standards

- a. Student-to-instructor ratio is not to exceed 8:1 during land drill or surface exercises; it cannot exceed 4:1 during any in-water training.
- b. If conducted in the cave environment, student-to-instructor ratio is not to exceed 6:1 during land drill or surface exercises, and it cannot exceed 3:1 during any in-water training.
- c. Maximum depth of 100 ft/30 m or the limit of the student's certification, whichever is shallower.
- d. No overhead diving except when taught by an Active GUE Cave 2 instructor.
- e. Students participating in a Documentation Diver course conducted in a cave must be at least GUE Cave 2 certified.

- f. When the course is conducted in a cave, all diving must remain within Cave 1 limits, adhering to gas limits as required by Cave 1 standards.
- g. All dives must be within minimum decompression limits (MDLs), i.e., no required stops.

#### **2.2.10.5 Required Training Materials**

GUE training materials and recommended reading as determined by the course study packet received via online download after GUE course registration.

#### **2.2.10.6 Academic Topics**

- a. Introduction: GUE organization and course overview (objectives, limits, expectations)
- b. Project planning and management
- c. Photo equipment specifics
- d. Video equipment specifics
- e. Camera techniques
- f. Composition
- g. Lighting techniques
- h. Survey and mapping tools
- i. Mapping and survey skills
- j. Dive planning specific for documentation diving
- k. Operational planning
- l. Support materials
- m. Team responsibilities, planning, and diving
- n. Building and organizing a media database
- o. Basics of editing video and photo material
- p. Preparing materials for publishing
- q. Publishing and uploading a complete project report

#### **2.2.10.7 Land Drills and Topics**

- a. Photo camera preparation and maintenance
- b. Video camera preparation and maintenance
- c. Survey and mapping
- d. Composition practice
- e. Dive team order and protocols
- f. Use of spools and reels
- g. Basic navigational skills
- h. Visual referencing skills
- i. Pre-dive drills

#### **2.2.10.8 Required Dive Skills and Drills**

- a. Demonstrate proficiency in safe diving techniques, including pre-dive preparation, in-water activity, and post-dive assessment.
- b. Demonstrate awareness of team member location and a concern for safety, responding quickly to visual indications and dive partner needs.
- c. Demonstrate a safe and responsible demeanor throughout all training.
- d. Demonstrate proficiency in underwater communication.
- e. Demonstrate basic proficiency in managing the GUE equipment configuration.

- f. Demonstrate safe ascent and descent procedures.
- g. Demonstrate good buoyancy and trim, i.e., approximate reference is a maximum of 30 degrees off horizontal while remaining within 5 ft/1.5 m of a target depth.
- h. Must be able to swim at least 300 yds/275 m in less than 14 minutes without stopping. This test should be conducted in a swimsuit and, where necessary, appropriate thermal protection.
- i. Must be able to swim a distance of at least 50 ft/15 m on a breath hold while submerged.
- j. Demonstrate proficiency adjusting buoyancy while managing camera equipment.
- k. Demonstrate effective use of compass and navigation.
- l. Demonstrate familiarity with required course equipment.
- m. Demonstrate the ability to capture predetermined imagery underwater.
- n. Demonstrate the ability to draw a map underwater.
- o. Demonstrate the ability to accurately record data underwater.
- p. Demonstrate proficiency in surface marker buoy deployment while using a spool.
- q. Demonstrate proficiency in reel, spool, and guideline use.

### 2.2.10.9 Equipment Requirements

GUE base equipment configuration as outlined in Appendix A, plus:

- a. Photographic equipment: any digital photo camera suitable for underwater photography, preferably in a housing and able to sustain a minimum water pressure of 100 ft/30 m. An underwater flash is highly recommended (if not available, underwater video lights may be suitable). Manual adjustment (aperture/shutter) on the camera is preferred.
- b. Video equipment: any digital video camera suitable for underwater videography, preferably in a housing and able to sustain a minimum water pressure of 100 ft/30 m. An underwater video lighting system is highly recommended. Manual adjustment (aperture/shutter) on the video camera and a wide-angle lens with adapter is preferred.
- c. Computer system: any Windows or Mac-based computer (preferably a laptop) with software designed for video and photo editing, an internet connection, and word-processing software installed.

Prior to the commencement of the class, students should consult with a GUE representative to verify equipment requirements and appropriateness of any selected equipment.

## Appendix A - GUE Base Equipment Configuration

The GUE base equipment configuration is comprised of:

- a. Tanks/cylinders: Students may use a single tank/cylinder with a single- or dual-outlet valve. Students may also use dual tanks/cylinders connected with a dual-outlet isolator manifold, which allows for the use of two first stages. Dual tanks/cylinders connected with a dual-outlet, non-isolator manifold can be used, but only in recreational (no decompression) diving, and are considered an alternative for a single tank/cylinder. Consult course-specific standards and your instructor to verify size requirements.
- b. Regulators:

- i. Single tank: The first stage must supply a primary second stage via a 5 to 7 ft/1.5 to 2 m hose. A backup second stage must be necklaced and supplied via a short hose. The first stage must also supply an analog pressure gauge, inflation for the buoyancy compensator (BC), and (when applicable) inflation for a drysuit.
  - ii. Double tank: One first stage must supply a primary second stage via a 5 to 7 ft/1.5 to 2 m hose (7 ft/2 m hose is required for all cave classes), and inflation for the buoyancy compensator (BC). The other first stage must supply a necklaced backup second stage via a short hose, an analog pressure gauge, and (when applicable) inflation for a drysuit.
- c. Backplate system:
  - i. Is held to the diver by one continuous piece of webbing. This webbing is adjustable and uses a buckle to secure the system at the waist.
  - ii. A crotch strap is attached and looped through the waistband to prevent the system from riding up a diver's back.
  - iii. The continuous webbing must support five D-rings;
    - 1. The first placed at the left hip
    - 2. The second placed in line with a diver's right collarbone
    - 3. The third placed in line with the diver's left collarbone
    - 4. The fourth and fifth are placed on the front and back of the crotch strap when divers plan to use advanced equipment such as DPVs.
  - iv. The harness below the diver's arms has small restrictive bands to allow for the placement of backup lights. The webbing and system retains a minimalist approach.
- d. Buoyancy compensation device (BC):
  - i. A diver's BC is back-mounted and minimalist in nature.
  - ii. It is free of extraneous strings, tabs, or other material.
  - iii. There are no restrictive bands or restrictive elastic affixed to the buoyancy cell.
  - iv. Wing size and shape is appropriate to the cylinder size(s) employed for training.
- e. At least one time/depth measuring device
- f. Wrist-mounted compass
- g. Mask and fins: Mask is low-volume; fins are rigid, non-split.
- h. Backup mask
- i. At least one cutting device
- j. Wetnotes with pencils
- k. Surface marker buoy (SMB) with spool: when required, the SMB should be appropriate for environmental conditions and deployed using a spool with at least 100 ft/30 m of line.
- l. Exposure suit appropriate for the duration of exposure

### Additional Course-Specific Equipment

- a. Where required, back gas and stage cylinders are marked in accordance with the GUE General Training Standards, Policies, and Procedures document and configured in line with GUE protocols.
- b. When drysuit inflation systems are applicable, they should be sized appropriately for the environment; small tanks are placed on the left side of the backplate with larger supplies affixed to the diver's left back gas tank.

- c. Underwater lights:
  - i. When required, backup lights should be powered by alkaline batteries (not rechargeable) and stowed on the D-rings at a diver's chest.
  - ii. Backup lights should have a minimal amount of protrusions and a single attachment at the rear.
  - iii. The primary light should consist of a rechargeable battery pack and be fitted with a Goodman-style light handle.
  - iv. When burn time requirements create the need for an external battery pack, it should reside in a canister mounted on the diver's right hip.
- d. Guideline devices, as required during cave diving activities:
  - i. A primary reel is required for all cave diving and provides a minimalist form factor with a handle designed to support a Goodman or "hands free" handle operation. The primary reel must contain at least 150 ft/45 m of line.
  - ii. A safety spool is required for each diver while cave diving and must contain at least 150 ft/45 m of line.
  - iii. A jump or gap spool is required during Cave 2 diving and must contain at least 75 ft/23 m of line.