

GENERAL SPECIFICATION

SURVEYS

GS EP GEO 204

Geophysical debris survey

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1. Scope

This Specification describes the work related to an offshore debris clearance survey to be carried out on an offshore field, before the installation on the seabed of drilling/production structures, and/or before a seismic survey to ensure clearance for the streamer(s) and the seismic survey vessel.

It defines the equipment and describes the procedures to be used in order to establish the seabed features and sub-seabed conditions likely to be encountered within the surveyed area.

All requests in this Specification are considered as a minimum and shall be fulfilled. This document shall be used as the basis for data acquisition, interpretation and production of the final report.

The objectives, based on the acquired data, are to evaluate the potential risks affecting the installation of any structure on the seabed including, but not limited to:

- Presence of production/off-loading structures (platforms, pipelines, subsea templates, wharf, loading stations, etc.)
- Presence of natural obstructions (coral reef, rock outcrops, boulders, shoals, etc.)
- Presence of explosive ammunitions (mines, bombs, etc.)
- Presence of man-made obstructions (wrecks, dead weights, debris, fishing nets, etc.).

To achieve these objectives, the following investigations shall be carried out:

- Measure the water depth variations from surface
- Determine the slope of the seabed
- Locate by acoustic scanning any natural or man-made seabed obstruction such as rock outcrops, escarpments, reefs, depressions, debris, mines, bombs, wrecks, industrial structures, pipes or cables, etc.
- Identify visually and locate the main potential obstructions on the seabed.

Detect buried magnetic debris in some specific areas.

A classical debris survey is performed in a first stage. As an OPTION, a survey conducted with an ROV can be performed.

2. Reference documents

The reference documents listed below form an integral part of this General Specification.

In addition, applicable codes and Standards which are to be used in conjunction with this specification will be listed in the Particular Specification.

The order of precedence of the applicable documents shall be:

- The Particular Specification
- The present General Specification
- The Codes and Standards in reference.

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Where this specification states no overriding requirements, the referenced Codes and Standards shall apply in full. Standards equivalent to those referenced herein shall not be substituted without written approval from the Company.

External Documents

Unless otherwise stipulated, the applicable version of these documents, including relevant appendices and supplements, is the latest revision published at the effective date of this document.

Reference	Title
E&P Forum	Service Vessel Marine Safety Guidelines, Report no. 6.38/213, December 1994 Health, Safety and Environmental Schedules for Marine Geophysical Operations, July 1995 Guidelines on the use of Small Boats in Marine Geophysical Operations, July 1995
IAGC	Marine Geophysical Operations Safety Manual 7th edition, 1991

Total General Specifications

Unless otherwise stipulated, the applicable version of these documents, including relevant appendices and supplements, is the latest revision published in the applicable yearly collection.

Reference	Title
GS EP GEO 201	Offshore Geophysical Site Investigation
GS EP POS 001	Offshore surface positioning works
GS EP POS 002	Subsea positioning works

3. Units and abbreviations

3.1 Units

System of measurements: The SI system of units shall be used in all relevant measurements, processing and reporting.

3.2 Abbreviations

Company	Total or its subsidiary or agent acting on its behalf
Contractor	The Company, or their agents designated in the contract as being the main Contractor for the installation and the survey of the pipeline
DGPS	Differential Global Positioning System
HPR	Hydroacoustic Positioning System

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LBL	Long Base Line System
USBL	Ultra Short Baseline System
ROV	Remote Operated Vehicle
LAT	Lowest Astronomical Tide
DCC	Distance Cross Course
TDS	Temperature Depth Salinity
VHF	Very High Frequency
WGS 84	World Geodetic System 1984
UTM	Universal Transverse Mercator
KP	Kilometre Post

Additional terms and definitions utilized herein are defined elsewhere in the relevant contract documents.

4. Survey location and scope of works

4.1 Survey location

The area to be surveyed is defined in the Particular Specification.

These coordinates shall be confirmed prior to starting the operation. The coordinates of the platforms shall also be supplied prior to starting the operations.

4.2 Scope of works

The survey comprises tasks. These tasks are defined in the Particular Specification.

5. Requirements for the general debris clearance survey

The debris clearance survey shall be performed according to the following requirements:

5.1 Minimum size of areas to survey

The size of the area is defined in the Particular Specification.

5.2 Minimum grid

The grid is defined in the Particular Specification.

5.3 Minimum side scan resolution

A compromise between the sonar range and the vessel speed must be reached in order to locate all debris with a minimum size of 50 cm.

A maximum sonar range of 100 m is requested.

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6. Equipment

6.1 Survey/ROV support vessel

6.1.1 Vessel acceptance

The vessel must be designed for survey investigations and ROV operations. In addition, the vessel must be designed for work in the area all year round and be able to stay at sea for a minimum period of four weeks without port calls.

6.1.2 Vessel certification

The vessel must be certified and equipped according to its class and number of personnel to stay on board.

6.1.3 Key Personnel qualification

The certificates and qualifications of the officers on board must be accepted by the local authorities and be in accordance with the Total reference documents

6.1.4 Safety

The vessel must have been audited by the Company prior to the commencement of the work.

6.1.5 Specifications

- Vessel minimum length: 40 metres
- Vessel minimum transit speed: 10 knots
- Vessel working speed: 3 knots

6.1.6 Acoustic noise

The noise generated by the vessel must be outside the frequency spectrum recorded by the equipment used for the survey.

An acoustic spectrum of the ship's engines must be provided prior to mobilisation, if no evidence of similar use within the same specifications can be supplied.

6.1.7 Communication

6.1.7.1 Externally

- VHF radio covering all standard marine frequencies and preferably also common frequencies used by fisheries
- Satellite telephone and telex/telefax
- Radio telephone with telex/telefax operational in the area of interest.