

GENERAL SPECIFICATION

Geophysics

GS EP GPY 301

Marine gravity and magnetic on 2/3D seismic acquisitions

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Rev.	Date	Purpose of the revision

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1. Scope

1.1 Purpose

This document will define the acceptable parameters for the optional marine gravity and/or magnetic (G&M) acquisition in parallel with a 2D/3D seismic acquisition on the same vessel. G&M data can provide complimentary information on independent geophysical parameters for the sub-surface such as density and magnetic susceptibility, augmenting and extending the seismic imaging and interpretation.

1.2 Applicability

These G&M acquisition are a standard option in all marine seismic acquisition contract/CFT and are executed if there is a potential need for these data. The potential need is realised if there are no pre-existing G&M data, or if there are expected seismic imaging difficulties due to complex salt, basalt, basement, deep crustal or deep target sub-surface requirements.

Note that charges for G&M acquisition are usually day rate with processing by line kilometre rate, and that these general specifications are not used for acceptance/rejection of data or re-shooting of G&M data since they are secondary and subordinate to the seismic acquisition.

1.3 Actors/Third parties

The G&M acquisition is usually sub-contracted to a third party by the contracted marine seismic acquisition entity, with the possibility that processing of these data being sub-contracted again to another third party G&M entity. Often, coordination by Company with up to two sub-contracting entities in addition to the seismic Contractor is necessary to ensure acceptable final products.

2. Reference documents

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

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
Not applicable	

Total General Specifications

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

Reference	Title
Not applicable	

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3. Marine gravimetry and magnetometry data acquisition

The G&M Contractor will ensure that the survey will be performed in accordance with accepted standards, in a professional and cost effective manner and with regard for quality, health, safety and environment.

3.1 Marine gravimetry data acquisition

3.1.1 Gravimeter equipment

The G&M Contractor will ensure that the marine gravimeter meets manufacturer's specifications and shall carry out all manufacturers recommended tests of the marine gravimeter system prior to the start of survey operations. The results of these tests will be available for inspection by a Company representative. The G&M Contractor will keep on board of the vessel adequate test equipment, including at least one gyroscope, tools and spares to maintain the gravimeter system.

Gravimeter equipment will be positioned as close to the centre of gravity of the vessel as possible, in an area free from all forms of mechanical or electronic interference.

The G&M Contractor will appoint on board one technician capable of operating and maintaining the gravimeter system, who shall regularly inspect the system and recorded data.

3.1.2 Gravimeter recording

All outputs of the gravimeter will be digitally recorded to suitable digital media with a sampling interval of 1 second, unless specified otherwise by the Company. These outputs shall be at least:

1. Spring tension
2. Raw meter gravity
3. Total correction
4. Average beam
5. Average long horizontal acceleration
6. Average cross horizontal acceleration
7. Temperature on outside casing of gravimeter (ambient temperature in the room)

Failure of the marine gravity meter system shall not be cause to suspend the project or a survey line nor cause to delay commencing start of the next or new line. The G&M Contractor shall make best efforts to rectify the situation as soon as is possible.

Timing, positioning data and depth data will be recorded on the same digital media as the gravimeter data. The P1/90 navigation data will be supplied by the seismic acquisition company navigation personnel.

If operating conditions permit, the gravity data shall be measured and recorded with relevant positions during line changes – that is constant recording, even in turns.

The G&M Contractor will measure instrumental drift by recording still gravimeter readings at each port call occupied and reoccupied during normal survey operations. These drift recordings will be available for inspection by Company representatives.