



Exploration & Production

GENERAL SPECIFICATION

GEOLOGY

GS EP GLG 301

GWD: Gas While Drilling acquisition and interpretation

00	07/03	First issue
Rev.	Date	Notes

Contents

1. General aspects	3
2. Reference documents.....	3
3. Gas Trap.....	4
3.1 Technical Specification	4
3.2 Recommendations for all CONTRACTORS	4
4. Gas Line	4
4.1 Technical Specification	4
4.2 Recommendations for all CONTRACTORS	5
5. Analysers	5
5.1 Gas Detector.....	5
5.2 Recommendations for all CONTRACTORS	6
6. Gas Chromatograph.....	7
6.1 Technical Specification	7
6.2 Calibration.....	7
6.3 Recommendations for all CONTRACTORS	8
7. Data Management.....	8
7.1 Database	8
7.2 Versus Depth	8
7.3 Versus Time.....	9
7.4 Data Storage.....	10
Appendix 1 Technical glossary	11
Appendix 2 Gas vacutainer sampling	12

1. General aspects

The following technical specifications and recommendations to Surface Logging CONTRACTORS are considered as a minimum requirement for a better Gas data acquisition and storage in order to improve gas data interpretation while drilling using the GWD methodology.

These technical specifications are based on the instrumentation currently used by the main CONTRACTORS. Different methods and evolution for gas detection systems could be take into account and utilised after an appropriate technical evaluation.

Each CONTRACTOR is required to indicate the name of a gas data acquisition specialist in order to have a direct technical correspondence.

2. Reference documents

The reference documents listed below form an integral part of this General Specification. Unless otherwise stipulated, the applicable version of these documents, including relevant appendices and supplements, is the latest revision published at the EFFECTIVE DATE of the CONTRACT.

Standards

Reference	Title
Not applicable	

Professional Documents

Reference	Title
Not applicable	

Regulations

Reference	Title
Not applicable	

Codes

Reference	Title
Not applicable	

Other documents

Reference	Title
Not applicable	

Total General Specifications

Reference	Title
Not applicable	

3. Gas Trap

3.1 Technical Specification

- Type: constant Volume Trap or closest equivalent (QGM, Floating etc.).
- The gas trap should not be situated downstream of any major steps or turbulent zones in the flowline.
- The gas trap should be located near the bell-nipple, taking into account the safety (equipment) and its accessibility (maintenance).
- Mud outlet below the mud level.
- Position the gas trap so that the flow carries the discharge mud from the gas away from the mud entry port.
- Position the gas trap where the flow of drilling fluid is smooth (not turbulent) to avoid the degassing of aerated mud.

Reference gas trap (Microwave oven, VMS, SSR or equivalent) not requested as standard.

3.2 Recommendations for all CONTRACTORS

- Develop a constant volume and rate gas trap.
- Develop a heating system from gas trap to analyser (minimum 70°C) in order to keep constant temperature in the gas chain.

4. Gas Line

4.1 Technical Specification

- Two independent gas lines (one active and one spare) preferably with continuous purge capability.
- Kept to a minimum length; thus, no loops or twists at anytime.
- Condensation collector on each gas line.
- No polyethylene (to avoid segregation effects of the gas components) or steel allowed for gas lines. PVC gas line is recommended.
- Gas line should be available for extreme temperatures (i.e. 5 – 40°C).
- Use an insulation system.
- Air inlet far from any pollution sources (such as rig engines).
- “Gas mixture + Air vector”: pressure and suction flow should be constant, according to the specification of the equipment, with a visual control into ML unit.