

MUD LOGGING UNIT REQUIREMENTS

Mud Logging service unit must allow:

- a. Sampling of cuttings, their primary lithology description, evaluation of luminosity and calcimetry;
- b. Lithological profile evolution;
- c. Sampling of cores, their primary lithology description;
- d. Shale density measurement;
- e. D – exponent calculation;
- f. Continuous monitoring of hydrocarbon content in the mud C1 to C5 (Output in percentage content of hydrocarbons);
- g. Total gas (fast sensor);
- h. Hydrogen Sulphide (H₂S) indication;
- i. Mud parameters monitoring:
 - Mud temperature flow in and out of well;
 - Mud density flow in and out of well;
 - Monitoring of mud levels in mud tanks, in individual tanks and total (8x);
 - Monitoring of mud level in triptank and calculations for tripping.
- j. Drilling parameters monitoring:
 - Measured Depth and Vertical Depth,
 - Weight on Hook,
 - Rate of Penetration,
 - Rotary per Minute,
 - Rotary Torque,
 - Stand Pipe Pressure,
 - Well Head Pressure,
 - Pump Stroke,
 - Flow out,
 - Over Pull,
 - Flow in,
 - ECD,
 - Volume +/-,
 - Weight on Bit,
 - Bit Time and Total Bit RPM,
 - Lag Time, Lag Sample,
 - Video monitor at Driller, Supervisor, Mud engineer, Directional drilling and Rotary Table (Ex version).

Technical operator (One person of Provider) tasks:

- Daily reporting;
- Masterlog;

ANNEX B: Specification of the services

- Gas test check list;
- Technical operating of Mud Logging service unit (hardware, software).

Masterlog content:

- Date;
- Bit;
- Rate of penetration (ROP);
- Depth [m] MD – TVD;
- Weight on bit (WOB);
- Lithological composition (cuttings description);
- Lithology interpretation and description (based on cuttings);
- Cored intervals;
- Content of hydrocarbons [%];
- Dolomite and Calcite ratio [%];
- D-exponent;
- Well logging.

Masterlog and daily report will be sent to well site geologist once per day (Possible based on well site geologist instruction).

Final output (after the drill well):

- Final well report (+ CD digital version);
- Geological masterlog
Content depend on well site geologist decision;
- Drilling masterlog
Content depend on drilling engineer decision.