

SWP - Memory Gyro Operating Procedure



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Purpose: The purpose of this procedure is to provide written instruction for the operational check and rig up and rig down of the Memory Gyro.

Scope: This procedure shall apply as the standard method for Memory Gyro Operations.

Responsibilities: This procedure shall be performed by the Huracan Survey Engineer in conjunction with the rig crew as specified within the brackets **<Responsible Person>**.

Safety (general):



Personnel performing this procedure must take all practicable steps to protect their own health & safety & the health & safety of others by complying with applicable Occupational Health and Safety Acts and Regulations and by adhering to Company & Customer safety requirements.

Safety (specific):

ELECTRIC SHOCK HAZARD. The Gyro power supply operates with input voltages around DC 110 V. Extreme care must be taken when powering the cartridge, especially if the supply cover is removed. Gyro running gear weight bars weigh 54 lbs so ensure suitable HIP techniques are used.

A1. Workshop - Pre-Departure Check

<Huracan Survey Engineer> Prior to departing to the wellsite the following must be performed and recorded:

- A1.1 Ensure gyro calibration is in date
- A1.2 Perform calibration verification on main and back-up tool.
- A1.3 Perform pre-departure checklist and Journey Management (JM).

B1. Wellsite Operation - Pre-Job Check

<Huracan Survey Engineer> Prior to rigging up on wireline a pre-job operational check must be performed as follows:

- B1.1 Ensure calibration is in date and perform calibration verification prior to mobilisation to the wellsite.
- B1.2 Perform step back 5 x 5 in the area to assess potential hazards.
- B1.3 As the Gyro is very fragile, ensure that the Gyro is well supported at all times or stored in the Gyro carry case.
- B1.4 Connect Surface Box to Dummy Cable Box then connect to wireline Gyro, double check conductor and cable armor connections.
- B1.5 Power the tool as per the GyroTracer - Wireline Mode document.
- B1.6 Ensure Gyro calibration is correct and that azimuth and deviation is correct.
- B1.7 Power down the tool.
- B1.8 Check memory battery voltage is greater than 16v.
- B1.9 Program tool as per mGyro - Memory Mode document.

B2. Wellsite Operation – mGyro Survey

Wellsite mGyro survey:

- B2.1 **<Huracan Survey Engineer>** Ensure all required wellsite inductions are completed prior to commencing work.

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- B2.2 **<Huracan Survey Engineer>** Discuss with the company man the survey scope and obtain details of the HUD, potential tight spots and minimum restrictions that may be encountered during the survey.
- B2.3 **<Huracan Survey Engineer / Wireline Provider Engineer>** Open PTW, Hold safety meeting to ensure that all personnel working in and around the work area are aware of the potential hazards associated with the operation, refer to JSA as required.
- B2.4 **<Huracan Survey Engineer / Wireline Provider Engineer>** Connect memory gyro adapter to the bottom of the tool string run above to ensure no issues with electrical short from Huracan crossover and perform operational check of third party equipment.
- B2.5 **<Huracan Survey Engineer>** After Conveyance Company has rigged up and is ready connect running equipment to wireline head, ensure all connections are torqued and checked. Lift up Gyro running and connect Memory Gyro to the bottom along with bottom centraliser.
- B2.6 **<Huracan Survey Engineer>** Wait for Gyro to power up and allow Gyro to warm up as per contained within the GyroTracer - Memory Mode document
- B2.7 **<Wireline Provider Engineer>** RIH and POOH speed is limited to 120 m/min. Tagging bottom can be performed but at a speed of less than 10 m/min.
- B2.8 **<Huracan Survey Engineer / Wireline Provider Engineer>** Prior to surface ensure that depth is checked versus secondary depth reference such as a flange or a drum counter.
- B2.9 **<Wireline Provider Engineer>** Remove any pressure equipment and ensure high tension shut down is used.
- B2.10 **<Huracan Survey Engineer>** When out of hole with Gyro tool, remove the bottom centraliser and the gyro and replace gyro in specific carry case. Rig down Gyro running equipment.

B3. Wellsite Operation - Post-Job

<Huracan Survey Engineer> The following is a procedure for post-job processing and maintenance:

- B3.1 Perform Gyro data integrity check and process and deliver preliminary data to client.
- B3.2 Ensure equipment is sufficiently secured prior to departure from the wellsite.
- B3.3 Perform journey management.

C3. Workshop - Post-Job

<Huracan Survey Engineer> On arrival back at the base the following must be performed and recorded:

- C1.1 Perform calibration verification on mGyro survey tool.
- C1.2 Deliver finalised client data.

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