

Fluids

Non-Reactive Sampler (NRS)

Expro's Non-Reactive Sampler (NRS) provides a unique method to collect samples for Mercury, Arsine and a number of Sulphur components. It can be deployed in wells by various types of carrier including e-line, tractor, coiled tubing and slickline.

The NRS can be run as an independent tool or in combination with single-phase bottom hole samplers. The samples will be dual-phase at surface and are not used for PVT analysis.

Features

- **Non-corrosive:** NRS provides service in the most hostile well environments with extreme H₂S levels
- **Detachable sample chamber:** the actuator opens and closes the NRS in a single shot triggering. The sample chamber can be removed, secured and if required, replaced by another for more samples

Benefits

- Can be operated in HP/HT wells without compromising safety
- Non-reactive material makes the tool excellent for trace element sampling and sampling in highly corrosive hydrocarbon fluids containing CO₂, Hg, H₂S and brines
- The material of the tool provides insignificant loss of H₂S from the sample
- Provides a unique method to collect and analyse Hg from the reservoir
- Fast sample analysis with the sample being analysed onsite immediately after coming out of the well ensuring the best possible result
- The samples are taken in an evacuated chamber and sealed with a metal-to-metal seal (no piston or rubber seals come into contact with the stored sample)



Technical specifications

Design pressure	20,000psi @ 400°F
Sample volume	200cc dual phase
Tool OD	28.3mm / 1.114in
Tool length	2161mm / 85.1in
Tool weight	9kg
Service fluid	NACE MR0175 / ISO 15156

For more information contact your local Expro representative or email fluids@exprogroup.com

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Non-Reactive Sampler (NRS) | Set-up Options

Standard: concentric carrier

- OD 5.5" and full bore ID 2.25"
- Standard end connection 3.5" Hydril PH6

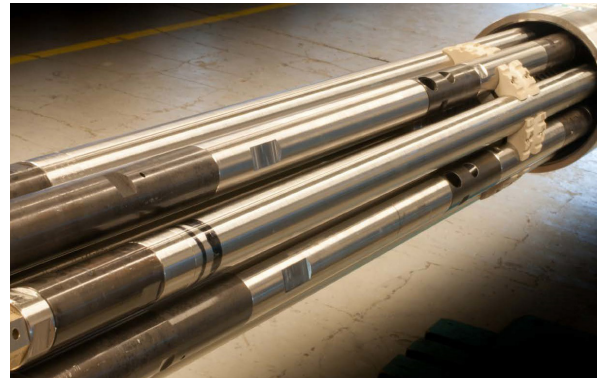
Standard configuration

- 4 NRS tools + 4 PCS Mk2
- Total of 800cc for trace elements and 1,200cc for PVT sample
- Carrier length: 8.38m / 329.8in

Alternative configuration

- 8 NRS tools
- Total of 1,800cc for trace elements
- Carrier length: 4.91m / 193.3in

Trigger: rupture disc or acoustic

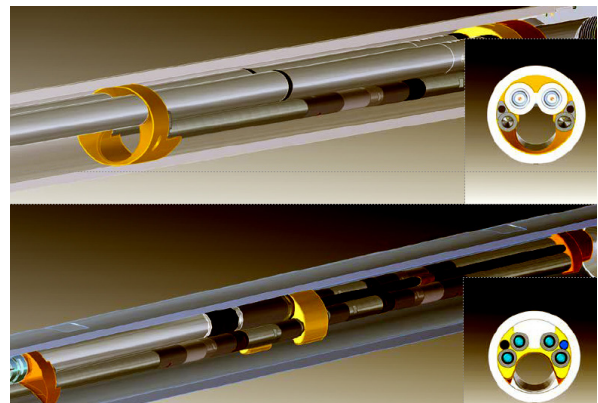


Optional set-up: 15K carrier

- OD 5.5" and eccentric full bore ID 2.25"
- End connection 4.5" stub acme
- Can be delivered with x-over to 3.5" Hydril PH6 connection or other on demand
- Carrier length: 7.25m / 285.4in

Configuration

- 2 PCS Mk1 + 2 NRS (triggered by the PCS)
 - NRS placed parallel to the PCS sample chamber
 - Trigger: rupture disc or acoustic of PCS closing of PCS starts sampling in NRS
 - With/without fail-safe
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- 6 NRS tools
 - Trigger: rupture disc or acoustic, triggering 3 and 3 samplers



Optional set-up: Wireline

Configuration

- 1 PCS Mk1 + 2 NRS (triggered by the PCS)
 - NRS triggered by closing of PCS PVT
 - Ø 44.45 / 1-3/4", total length 6.51m / 256.1in
 - E-clock
 - End connections 15/16" sucker rod
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- 3 NRS tools (bundle)
 - Ø 62 bundle and e-clock trigger section Ø1-3/4"
 - Total length 3.74m / 147.3in
 - E-clock

