

Cased hole Fluid samplers

PGM BOREHOLE SAMPLER SERIES



SCOPE OF APPLICATION

PGM-28-300

- Oil and gas wells equipped with sucker rod pump

PGM-36(38, 42)-300, PGM-48-500

- Oil and gas wells

PGM-38(48)-500

- Oil and gas wells
- is limited in use when viscous, waxy oils are present in the wellbore due to difficult circulation through the sampler reception chamber during its RIH to the sampling interval

FEATURES

- Fluid and gas sampling is carried out into a sealed transportable container for subsequent analysis in laboratory conditions
- Pressure and temperature recordings are taken during entire time the sampler is in the borehole
- The sampler is conveyed to the target depth on a logging cable; it is controlled by applying voltage to the sampler from the surface using a standard logging power source

- PGM samplers are software and hardware interfaced to the VULCAN surface system
- In PGM-28-300 sampling is performed from the wellbore in a static position by swabbing method, which prevents sample degassing (suction type sampler)
- While RIH of PGM-38(48)-500 the connection of the inner cavity of the container with the fluid in the wellbore is provided; when the tool is set at a given depth on command from the surface, the lower and upper valves on the container are closed providing sealing of fluid and gas sample under formation pressure (flowing sampler type); sampling is performed from the wellbore space

ADVANTAGES

- Low weight and size
- Easy to use
- Tripping out oil and gas samples to the surface in a sealed container



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PGM Sampler Series

SPECIFICATIONS

	PGM-28-300	PGM-36-300	PGM-38-300	PGM-42-300	PGM-48-500	PGM-38-500	PGM-48-500
Container type	Suction					Flowing	
Pressure range	3–60 MPa / 435-8702 psi		3–80 MPa/ 435-11603 psi	3–100 MPa/ 435-14503 psi	3–120 MPa/ 435-17404 psi	2–60 MPa/ 291-8702 psi	2–100 MPa/ 291-14503 psi
Maximum temperature	120°C / 248°F			150°C/ 302°F		120°C/ 248°F	150°C/302°F
Sampler size, mm	28 mm/ 1.1 in	36 mm/ 1.42 in	38 mm/ 1.5 in	42 mm/ 1.65 in	48 mm/ 1.89 in	38 mm/ 1.5 in	48 mm/ 1.89 in
Samples taken in one trip of sampler	1						
Sample volume, ml	300				500		
Sampler length, max	2700 mm/ 106.3 in	2400 mm/ 94.49 in				2700 mm/ 106.3 in	2600 mm/ 102.36 in
Sampler weight, kg, max.	7 kg/ 15.4 lb	10 kg/ 22.05 lb	10.5 kg/ 23.15 lb	12 kg/ 26.46 lb	15 kg/ 33.07 lb	12 kg/ 26.46 lb	14 kg/ 30.87 lb

Case Study No.1

PGM BOREHOLE SAMPLER SERIES

SAMPLING OF FLUID AND GAS FROM ANNULUS

Challenge

Sampling of fluid and gas from annulus accompanied with pressure and temperature

Location: Russia

Well: Vertical

Solution

PGM-28-300 Sampler

Fluid and gas samples are taken from annular space into a sealed transportable container in a static position by swabbing method, preventing sample degassing (suction-sampler) for their subsequent analysis in laboratory conditions. Pressure and temperature are recorded during entire time the sampler is in the borehole.

The sampler is wireline-delivered to the specified depth; it is controlled by applying voltage to the sampler from the surface using a standard logging power supply.

Results

An experimental model was manufactured and tested at one of the oil and gas fields of OOO TNG-Group (LLC).

It was made 3 trips and taken 3 samples; number of failures is 0.

Advantages

- Low weight and size
- Easy to use
- Tripping out oil and gas samples to the surface in a sealed container

Key benefits

The use of the geophysical module as part of the sampler allows us to identify the bubble point pressure intervals.

