

Dispenser Feed Gas Line Black Powder Removal

Natural Gas Dispenser Feed Line for Transit Buses
Snam Rete Gas, Italy, 2012-Current



Problem:

Black Powder contamination was damaging meters, valves, and compressor seals. Costly monthly maintenance was required to repair and clean the pipe system and compressor components.

Solution:

Alex Priori of Renox S.R.L., suggested installing a BPS Black Powder Magnetic Separator prior to the compressor.

Results:

After 3 months and 309 218 SCM of natural gas, a significant amount of Black Powder contamination was captured.

Analysis of the Black Powder showed high quantities of ferrous and non-ferrous contamination that was captured by the magnetic separator.

The BPS Magnetic Separator is still currently installed with full efficiency and effectiveness. No maintenance crews have been required to repair the compressors since employment of the Magnetic Separator.

Conclusion:

Snam Rete has stated it is very pleased with the BPS Magnetic Separators and will install them at all locations experiencing BLACK POWDER.

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RENOX Srl

Unit ID: SNAM - MATERIALE PER ANALISI
 Model:
 Machine Type: Single sample



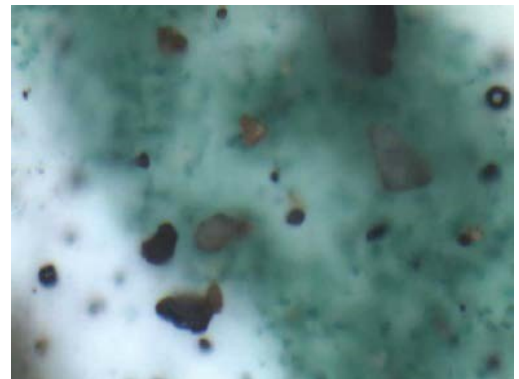
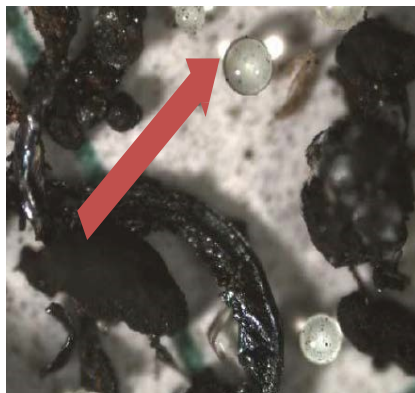
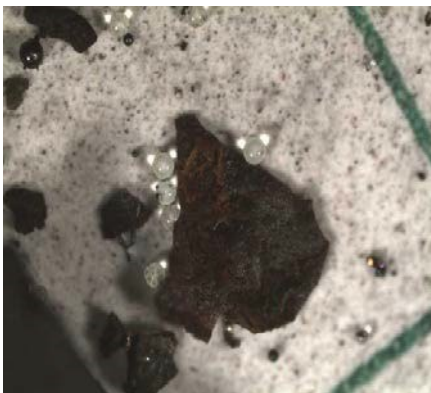
The atomic emission analysis detects a high presence of iron and silicon.
 Analysis on the vacuum membrane filtration residue (microscopy, see enclosed images) detects the presence of coarse particulate, predominantly metal (with magnetic properties, steel), and rust.

Ing. Matteo Campatelli, 22 Mar 2013

Oil NON SPECIFICATO UNKNOWN		Sample ID	4C7F90 (M2005)
Note:	Sampled on		n.a.
	Received on		19 Mar 2013
	h Total		
	h Oil		
	Top up (L.)		
			Warning Limits
	Iron	ppm	>2000
	Chromium	ppm	3
	Nickel	ppm	11
	Molybdenum	ppm	<1
ASTM D6595-00 WEAR METALS	Aluminium	ppm	58
	Lead	ppm	20
	Copper	ppm	13
	Tin	ppm	<1
	Silver	ppm	<1
	Titanium	ppm	5
	Silicon	ppm	417
ASTM D6595-00 CONTAMINANTS	Sodium	ppm	46
	Vanadium	ppm	<1
	Potassium	ppm	41
	Calcium	ppm	196
ASTM D6595-00 ADDITIVES	Magnesium	ppm	60
	Phosphorus	ppm	154
	Zinc	ppm	93
	Barium	ppm	<5
	Boron	ppm	10

Date 22 Mar 2013

Analysis of BLACK POWDER Contamination



Non-ferrous trans-lucid sphere particles, plastic in nature, trapped by the BLACK POWDERS Magnetic Separator via entrainment of fine ferrous particles, and static adhesion.

Non-metallic particles present with dimensions 5µm viewed at 100x image.