

Off-shore Platform Glycol Dehydration

Adriatic Sea, Italy / 2015

Problem

Contamination entering a 3000-7000 L glycol reservoir from a 32 km pipeline had high levels of contamination as a result of pipeline corrosion. The contamination would degrade new glycol and reduce its ability to cool and remove moisture from gas. Corrosion of the carbon steel piping would cause contamination build-up during transmission and storage. The glycol system was unmanned and required a low maintenance filtration solution with minimal change-outs. During the dehydration phase, if the temperature of the glycol is volatile (this occurs when high levels of iron are present), the likelihood of vaporization loss increases, resulting in lost production.

Spectroscopic Analysis (ppm)	
Iron	606
Chromium	17
Nickel	< 5
Manganese	12
Aluminum	93
Lead	< 5
Copper	24
Tin	< 5
Silver	< 5
Titanium	5
Silicon	410
Sodium	26
Potassium	130
Vanadium	< 5
Calcium	14
Magnesium	64
Phosphorous	779
Zinc	30
Barium	86



Solution

Install a magnetic separator after the reservoir to improve glycol quality.

Results

Analysis of contamination collected on the magnetic element showed 74% non-ferrous particles and 26% ferrous. The glycol quality was significantly improved with minimal maintenance requirements.