

Case Study – South America - 2012

NuGenTec Increases Production in South American Pipeline

Background:

- A trial was conducted by PDVSA to assess the chemical behavior of NuGenTec's NuFlo™ 151 on wells, transfer lines, and pipelines in the extra-heavy crude area of the Morichal District.
- NuFlo™ 151 was tested and certified in PDVSA's laboratories as compatible with all infrastructure materials, as non-corrosive and as compatible with PDVSA's midstream infrastructure, storage, crude oil and refining processes.
- The trial was set to achieve three specific objectives:
 - Study the pressure change in the pipeline section after injecting the NuFlo™ 151 test product.
 - Obtain oil samples following the chemical injection testing NuFlo™ 151 product.
 - Compare and assess the results obtained physical and chemical characteristics of the oil samples following the chemical injection of the NuFlo™ 151 product in the pipeline.



Solution:

- NuFlo 151 was dispensed through a chemical injection pump, at a dosage of 445 ppm per hour of NuFlo™ 151 in a 1.2 km, 16" pipeline over a period of 32 hours. PDVSA monitored pressure and temperature fluctuations at the beginning and end points of the pipeline (P1 and P2).
- On commencement of the trial the standard operating pressure in the pipeline was between 100 and 102 psi. P1 pressure was measured at 100 psi and P2 pressure at 95 psi.

Benefits/Results:

- After the first 9.5 hours post-injection the pressure at P1 was 95 psi and pressure at P2 was 82 psi.
- The trial ended with a measurement of P1 pressure at 97 psi and P2 pressure measuring 84 psi, registering a reduction in line pressure of 13 psi between P1 and P2, and 16 psi reduction from standard operating pressure at the commencement of the test.
- PDVSA reported the oil viscosity in the pipeline decreased significantly (despite using a relatively low, and less than optimal dosage of chemical, for the test and that there was a significant increase in oil throughput from the transfer line.

Background:

To assess the chemical behavior of NuGenTec’s NuFlo™ 151 on transfer lines, and pipelines in the extra-heavy crude area of the Morichal District.

Outcome:

Date:	Time:	Macolla P (psi)	P1 (psi)	P2 (psi)	T (°F)
05-06-2012					
Start of NuFlo 151 Injection	10:30		100	95	82
	13:15	102	98	87	98
	14:00	102	100	85	106
	15:00	102	98	84	74
	16:00	102	97	83	98
	17:00	102	98	84	98
	20:00	100	95	82	87
	22:00	100	99	84	82
	23:00	100	96	85	80
	24:00	100	100	84	80
06-06-2012					
	15:30	98	96	85	79
	16:30	99	100	85	85
End of NuFlo 151 Injection	18:30	100	97	84	79

PDVSA’s Conclusions:

- During test on the transfer line, the NuFlo™ 151 chemical was very effective in maintaining performance even as ambient temperature decreased at night.
- After applying the NuFlo™ 151, the oil viscosity in the pipeline decreased significantly (despite using a relatively low, and less than optimal dosage of chemical, for the test).
- During the chemical treatment, there was a significant increase in oil throughput from the transfer line.

Company Background:

NuGenTec is an oilfield chemicals company specializing in environmentally friendly, customized chemical solutions to increase oil & gas production, restore flow efficiency to pipelines, clean-out and recover oil from sludge in tanks, and improve overall efficiencies in the field. NuGenTec’s NuFlo™ product line is a proprietary line of environmentally friendly oilfield chemicals designed to breakdown and increase solvency for paraffin and asphaltenes for a wide range of crude oils from extra heavy to light under wide temperature and pressure ranges. NuFlo™ products target deposits in the producing formation, in the wellbore and flow lines, in pipelines and in tanks. NuFlo™ is fast acting and highly effective; customers experience immediate results with an industry leading high returns on invested capital.

Kingdom of Saudi Arabia Partner and Representative:

NuGenTec is delighted to announce that in May 2013 Bandariyah International Company (BIC) was appointed as the exclusive representative for all NuGenTec products and services in the Kingdom of Saudi Arabia.