



On-Site Services, Troubleshooting & Testing

Increased throughput, contaminated feed streams and reduced operational costs are all necessary evils in plants across a number of industries today. As operators move to cheaper feedstocks and higher capacities in order to stay competitive, plants face increased strain and new operational issues that require troubleshooting.



We believe that root-cause analytics, expert interpretation and process evaluation are vital to understanding and troubleshooting plant issues. Nexo Solutions provides technical services in

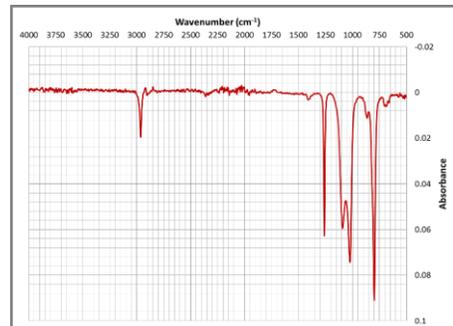
a wide range of applications, using several analytical techniques in order to discover the root-causes and resolve process inefficiencies. Our on-site services include:

- On-Site Evaluations & Testing
- Operational Improvements
- Technical Training
- Equipment Evaluations
- Specialized Sampling & Analytics
- Gas and Liquid Performance Testing
- Process Stabilization & Optimization
- Advanced Modeling & Simulation

Case Study

A tail gas treating unit was experiencing difficulties with corrosion, fouling and significant sludge formation in the amine filtration system. Corrosion and fouling in the unit was causing increased maintenance and downtime, while sludge in the filtration system led to drastically reduced filter lifetime and efficiency.

Advanced analysis of the rich amine feed to the unit revealed considerable amounts of suspended solids, predominantly iron based. Conversely, lean amine analysis revealed high amounts of soluble iron. Techniques including XRD, IR, IC, ICP, HPLC, GC, GC-MS and TGA analysis were utilized. Process evaluation revealed breakthrough of SO₂ in the amine solvent as well as contaminants in the feed gas stemming from an upstream hydrogen feed.



Nexo Solutions implemented a number of changes to improve efficiency. The quench water source was upgraded, and filtration was implemented. The flow was also adjusted in order to minimize SO₂ breakthrough. The hydrogen feed upstream of the unit was upgraded in quality, and feed contamination was dramatically reduced. Corrosion and fouling was reduced, and sludge formation in the feed filtration system was eliminated, allowing the refinery to run with improved reliability, efficiency and profitability.

For additional information, please contact us at Support@Nexosolutions.com