



CASE STUDY

CUSTOMER

PIONEER NATURAL RESOURCES (PNR)

LOCATION

MIDLAND, TX / JUNE 2019

EQUIPMENT

CRUDE OIL VAPOUR RECOVERY UNIT: SCREW COMPRESSOR

APPLICATION

LUBE OIL

PROVEN RESULTS



ANALYSIS OF OIL SAMPLES SHOW CONTINUATION PARTICLE SIZES:

OVER 70% < 4 MICRONS
OVER 40% < 1 MICRON

CHALLENGE

Prevent premature failure of a screw compressor in Pioneer Natural Resources' crude oil vapour recovery unit.

The screw compressor components (bearings, seals) were wearing due to inadequate filtration in the lube oil for particulate down to 4 microns or less.

SOLUTION

Replace the system's conventional mechanical filter with an OEI magnetic filter scrubber.

RESULTS

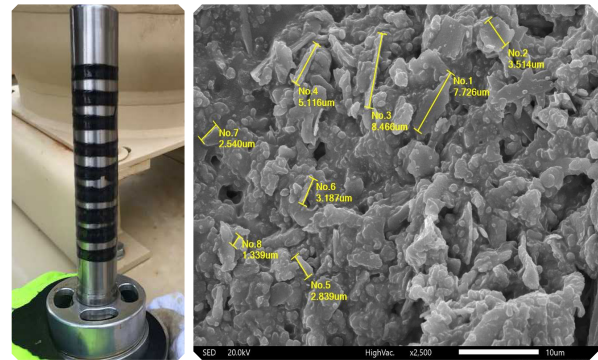
After 8 days of operation, the magnetic filter element was pulled and 2 oil analysis samples were taken for compressor units 654 and 655.

The analysis for Unit 654:

- » 83.8% of the contaminants captured were < 4 microns
- » 39.9% of the contaminants were < 1 micron.
- » The majority of the elements were Iron (48%), Silicon (15%), and Calcium (10%) while other elements such as Sodium, Magnesium and Sulphur fell below 8%.

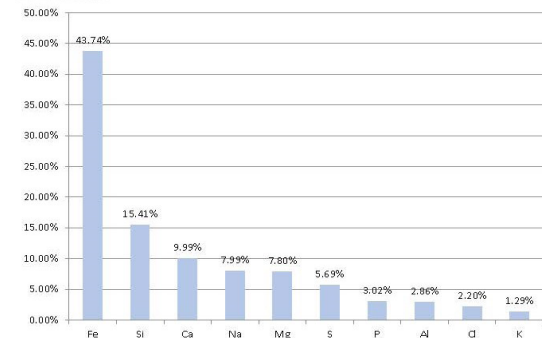
The analysis for Unit 654:

- » 71.7% of the contaminants captured were < 4 microns
- » 43.6% of the contaminants were < 1 micron.
- » The majority of the elements were Iron (29%), Sodium (13%), Phosphorus (13%) and Chlorine (11%), while other elements such as Sulphur, Calcium and Magnesium ranged between 6-8%.



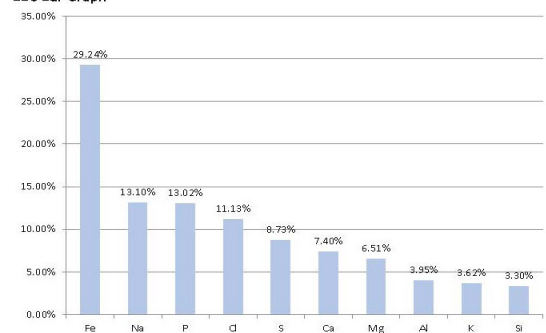
Unit 654 oil sample - Bridgewater A 38-35H Compressor

EDS Bar Graph



Unit 655 oil sample - Bridgewater A 38-35H Compressor

EDS Bar Graph



PRODUCT
RECOMMENDATION
**ADD-VANTAGE
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403.242.4221



QUOTES@ONEEYEINDUSTRIES.COM

