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UIN 04E2026
 Kit #: 60647

Centrifugal Compressor
Unit No. KY000059

Unit:
 Make
 Model
 Serial No. RU21B
 Site Westlake Chemical

Compartment:
 Name Centrifugal Compressor
 Make York
 Model
 Serial No. RU21B
 Capacity

Customer: 4316

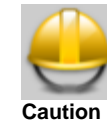
TAI HVAC CONTRACTOR
 1000 COBB PLACE BLVD.
 BULDING 300, SUITE 300
 Kennesaw, GA 30144

Diagnosis

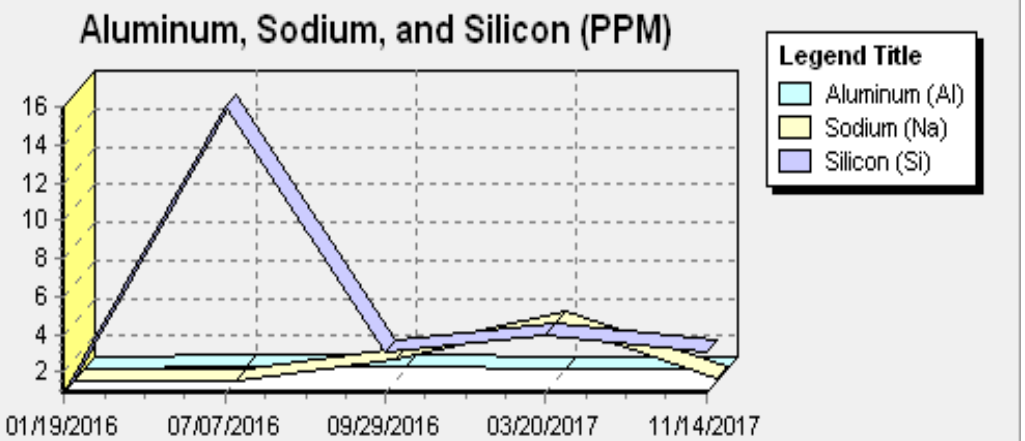
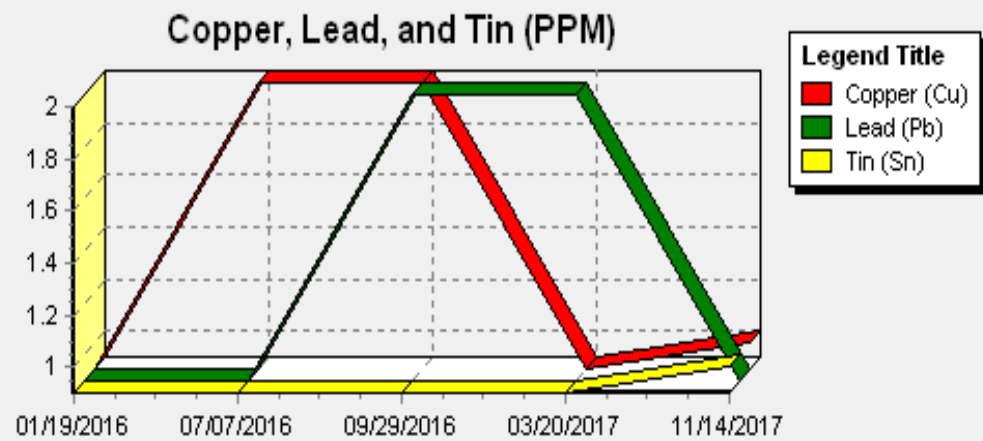
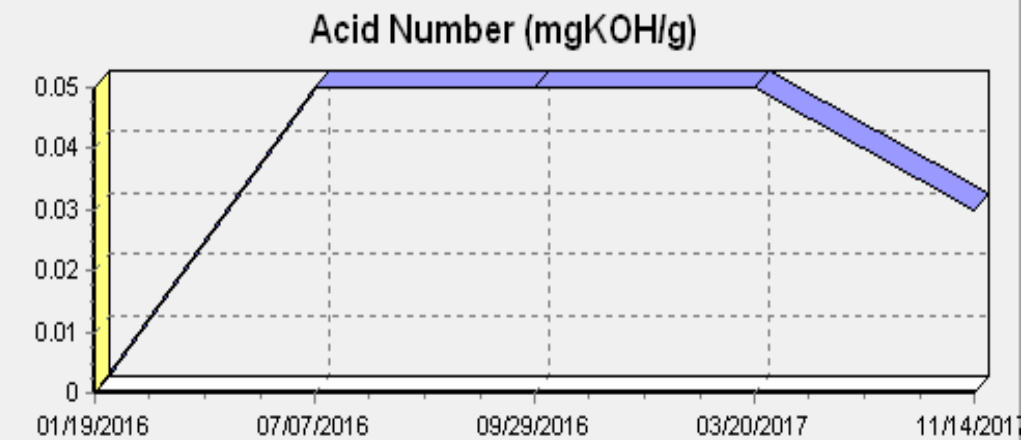
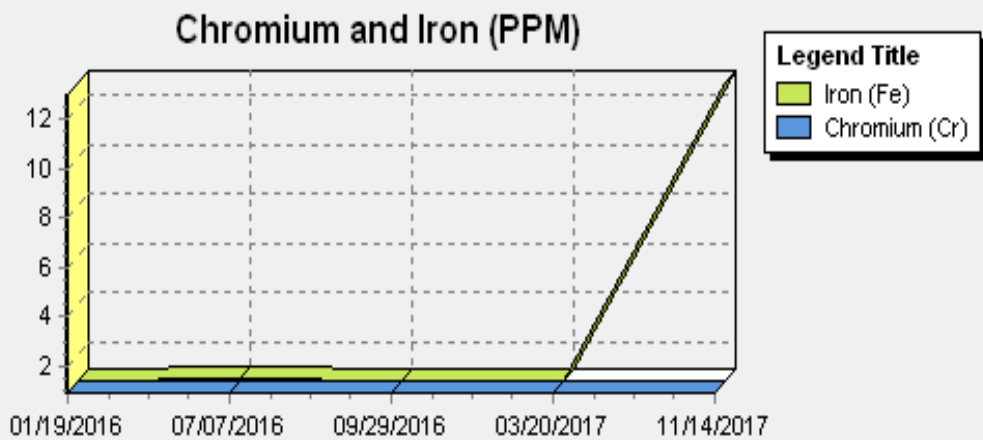
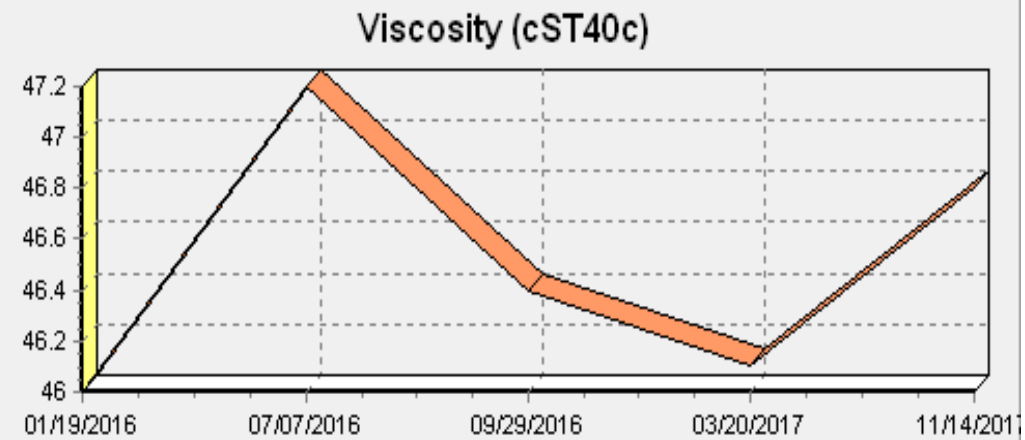
Increase in iron level noted. All other wear rates normal.
 Silicon level (dirt/sealant material) satisfactory. Water content
 acceptable. Viscosity within specified operating range.
 Action: Resample at a reduced service interval to further
 monitor.

Date Sampled	Nov 08, 2017	Feb 27, 2017	Sep 12, 2016	Jun 28, 2016	Jan 13, 2016
Date Received	Nov 13, 2017	Mar 16, 2017	Sep 27, 2016	Jul 05, 2016	Jan 15, 2016
Date Reported	Nov 14, 2017	Mar 20, 2017	Sep 29, 2016	Jul 07, 2016	Jan 19, 2016
Lab No. SIF No. Time on Unit (Hrs) Time on Oil (Hrs) Oil Brand Oil Type Oil Grade Oil Added Filter Oil Changed WO Number	42021078598 60647 Emkarate RL46H ISO 46 No	42020967057 57604 Emkarate RL46H ISO 46 No	42020891768 56998 Emkarate RL46H ISO 46 No	42020852992 55446 Emkarate RL46H ISO 46 No	42020773951 54131 Emkarate RL46H ISO 46 No
Metals (ppm) Iron (Fe) Chromium (Cr) Lead (Pb) Copper (Cu) Tin (Sn) Aluminum (Al) Nickel (Ni) Silver (Ag) Titanium (Ti) Vanadium (V)	13 ● ▲▲▲ ▲▲▲ ▲▲▲ ▲▲▲ ▲▲▲ ▲▲▲ ▲▲▲ ▲▲▲ ▲▲▲ ▲▲▲	▲▲▲ ▲▲▲ ▲▲▲ ▲▲▲ ▲▲▲ ▲▲▲ ▲▲▲ ▲▲▲ ▲▲▲ ▲▲▲ ▲▲▲	▲▲▲ ▲▲▲ ▲▲▲ ▲▲▲ ▲▲▲ ▲▲▲ ▲▲▲ ▲▲▲ ▲▲▲ ▲▲▲ ▲▲▲	1 ▲▲▲ ▲▲▲ ▲▲▲ ▲▲▲ ▲▲▲ ▲▲▲ ▲▲▲ ▲▲▲ ▲▲▲ ▲▲▲	▲▲▲ ▲▲▲ ▲▲▲ ▲▲▲ ▲▲▲ ▲▲▲ ▲▲▲ ▲▲▲ ▲▲▲ ▲▲▲ ▲▲▲
Contaminants (ppm) Silicon (Si) Sodium (Na) Potassium (K) Water by Karl Fischer (PPM)	3 1 3 66	4 ▲▲ 77	3 ▲▲ 114 ●	16 ● 3 127 ●	▲▲▲ ▲▲▲ 123 ●
Additives (ppm) Magnesium (Mg) Calcium (Ca) Barium (Ba) Phosphoros (P) Zinc (Zn) Molybdenum (Mo) Boron (B)	▲▲▲ ▲▲▲ ▲▲▲ ▲▲▲ ▲▲▲ ▲▲▲ ▲▲▲	▲▲▲ ▲▲▲ ▲▲▲ ▲▲▲ ▲▲▲ ▲▲▲ ▲▲▲	▲▲▲ ▲▲▲ ▲▲▲ ▲▲▲ ▲▲▲ ▲▲▲ ▲▲▲	▲▲▲ ▲▲▲ ▲▲▲ ▲▲▲ ▲▲▲ ▲▲▲ ▲▲▲	▲▲▲ ▲▲▲ ▲▲▲ ▲▲▲ ▲▲▲ ▲▲▲ ▲▲▲
Physical Tests Viscosity (cSt 40C) Solids (%)	46.8	46.1	46.4	47.2	46.0
Physical/Chemical Acid Number (mgKOH/g)	0.03	0.05	0.05	0.05	N/A

Caution ●
 Abnormal ●
 Severe ●



Caution Normal Caution Caution Caution



Explanation of Analysis

(TEST RESULTS ARE NORMAL UNLESS SPECIFIED OTHERWISE)

Physical Data	Solids % Volume
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(Solids as a % Volume: measures the total amount of solid material present in a measured portion of the oil sample. A high solids reading can indicate contamination or lubricant breakdown. Results are reported in percent volume.)

Metal Concentrations in Parts per Million by Weight

Element	Component	Element	Component
Silicon	Sealant/Coolant/Dirt	Moly	Bearings/Assembly Lube
Iron	Shell/Support/Cylinder	Magnesium	Brine/Detergent Additive
Chromium	Crankshaft/CYL/Rings	Sodium	Coolant/Brine
Aluminum	Bearings/Impeller/Pistons	Boron	Coolant/Additive
Copper	Oil Lines/Bearings/Tubes	Barium	Detergent Additive
Lead	Bearings	Phosphorous	Anti-Wear Additive
Tin	Bearings	Calcium	Brine/Detergent Additive
Nickel	Tubes/Crankshaft	Zinc	Anti-Wear Additive
Silver	Solder/Coolant		

(Metal Concentrations: selected metallic elements present as microscopic particles suspended in the lubricant are identified and measured in parts per million (ppm) by weight. These test results are used to monitor component wear, lubricant contamination, and lubricant additive levels.)

Additional Physical Information

VIC (Viscosity)	Oil Weight
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(Viscosity: the measure of a fluid's internal resistance to flow at a given temperature in relation to time. Changes in viscosity can indicate dilution, oxidation, improper servicing, or lubricant breakdown. Results are reported in centistokes (cSt) at 40° C.)

WKF (Water Karl Fisher)	Water Content
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(Water, Karl Fischer: the amount of water suspended in a lubricant, measured by Karl Fischer titration in parts per million (ppm) by weight.)

TAN (Total Acid Number)	Oil Acidity
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(Total acid number: measures the total amount of acidic product present in a lubricant. Generally, an increase in TAN above that of the new product indicates oil oxidation or contamination with an acidic product.)