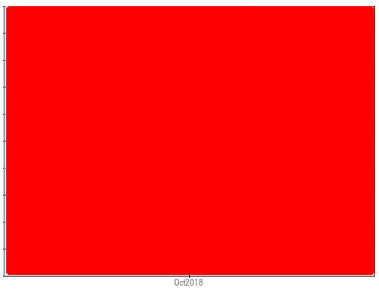
PROBLEM SUMMARY

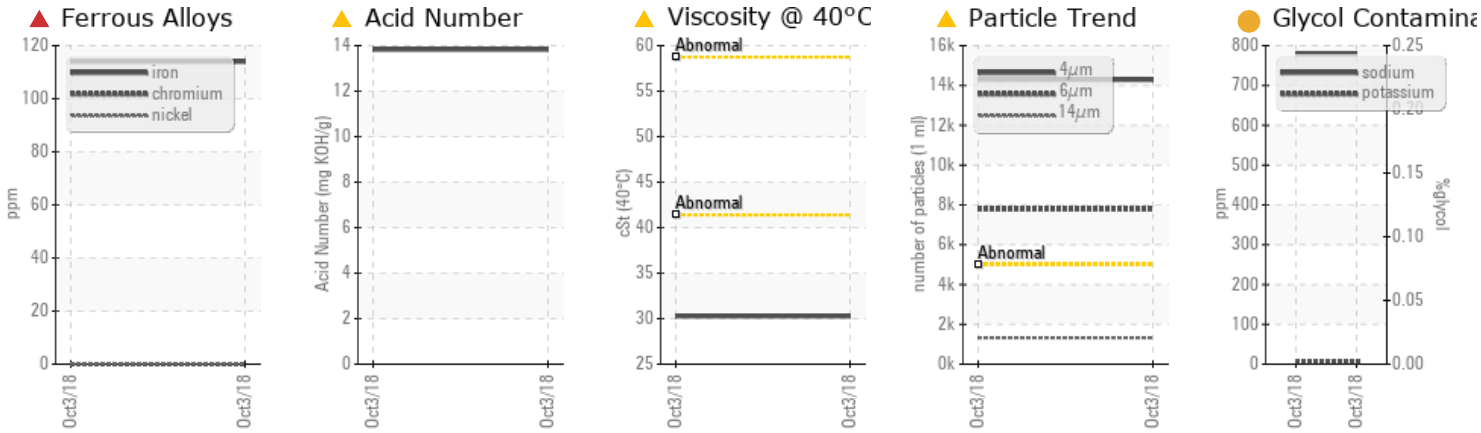
Sample Rating Trend



WEAR

Machine Id
UNIT 3 RED OIL - BAD SAMPLE UNIT 3 - BAD SAMPLE
Component
Hydraulic System
Fluid
{not provided} (--- GAL)

COMPONENT CONDITION SUMMARY



RECOMMENDATION

The oil change at the time of sampling has been noted.

PROBLEMATIC TEST RESULTS

Sample Status				**SEVERE**	---	---
Iron	ppm	ASTM D5185m	>20	▲ **114**	---	---
Particles >4µm		ASTM D7647	>5000	▲ **14288**	---	---
Particles >6µm		ASTM D7647	>1300	▲ **7783**	---	---
Particles >14µm		ASTM D7647	>160	▲ **1326**	---	---
Particles >21µm		ASTM D7647	>40	▲ **447**	---	---
Particles >38µm		ASTM D7647	>10	▲ **69**	---	---
Particles >71µm		ASTM D7647	>3	▲ **7**	---	---
Oil Cleanliness		ISO 4406 (c)	>19/17/14	▲ **21/20/18**	---	---
Acid Number (AN)	mg KOH/g	ASTM D8045		▲ **13.83**	---	---
pH	Scale 0-14	ASTM D1287		▲ **7.00**	---	---
Visc @ 40°C	cSt	ASTM D445		▲ **30.27**	---	---

Customer Id: CONMUSAL
Sample No.: WC04574296
Lab Number: 04574296
Test Package: IND 2

To manage this report scan the QR code

To discuss the diagnosis or test data:
Doug Bogart +1 (800)237-1369 x4016
dougb@wearcheckusa.com

To change component or sample information:
Customer Service +1 1-800-237-1369
customerservice@wearcheck.com

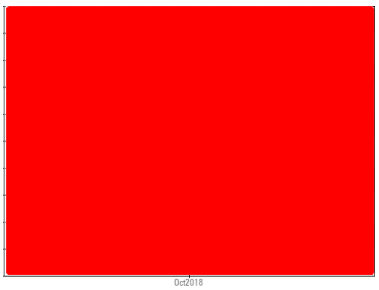
RECOMMENDED ACTIONS

There are no recommended actions for this sample.

HISTORICAL DIAGNOSIS

OIL ANALYSIS REPORT

Sample Rating Trend



WEAR

Machine Id
UNIT 3 RED OIL - BAD SAMPLE UNIT 3 - BAD SAMPLE
Component
Hydraulic System
Fluid
{not provided} (--- GAL)

DIAGNOSIS

Recommendation
The oil change at the time of sampling has been noted.

Wear
The iron level is severe. High wear metal levels reflect the reported failure.

Contamination
There is a high amount of particulates present in the oil. The water content is normal.

Fluid Condition
The AN level is high. The oil viscosity is lower than normal. The pH 7.0 is low indicating a high acidity of the fluid. Additive levels indicate the addition of a different brand, or type of fluid.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**WC04574296**	---	---
Sample Date		Client Info		**03 Oct 2018**	---	---
Machine Age	hrs	Client Info		**0**	---	---
Oil Age	hrs	Client Info		**0**	---	---
Oil Changed		Client Info		**N/A**	---	---
Sample Status				**SEVERE**	---	---

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>20	▲ **114**	---	---
Chromium	ppm	ASTM D5185m	>20	**0**	---	---
Nickel	ppm	ASTM D5185m	>20	**<1**	---	---
Titanium	ppm	ASTM D5185m		**0**	---	---
Silver	ppm	ASTM D5185m		**<1**	---	---
Aluminum	ppm	ASTM D5185m	>20	**0**	---	---
Lead	ppm	ASTM D5185m	>20	**<1**	---	---
Copper	ppm	ASTM D5185m	>20	**<1**	---	---
Tin	ppm	ASTM D5185m	>20	**0**	---	---
Antimony	ppm	ASTM D5185m		**1**	---	---
Vanadium	ppm	ASTM D5185m		**0**	---	---
Cadmium	ppm	ASTM D5185m		**<1**	---	---

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**16**	---	---
Barium	ppm	ASTM D5185m		**2**	---	---
Molybdenum	ppm	ASTM D5185m		**0**	---	---
Manganese	ppm	ASTM D5185m		**2**	---	---
Magnesium	ppm	ASTM D5185m		**0**	---	---
Calcium	ppm	ASTM D5185m		**3**	---	---
Phosphorus	ppm	ASTM D5185m		● **379**	---	---
Zinc	ppm	ASTM D5185m		**1**	---	---
Sulfur	ppm	ASTM D5185m		**199**	---	---

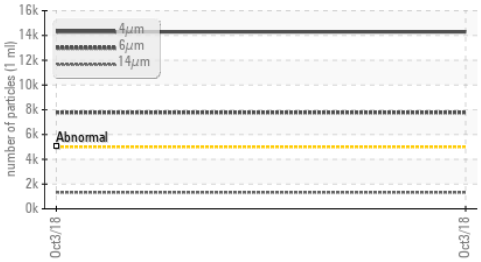
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>15	**0**	---	---
Sodium	ppm	ASTM D5185m		● **779**	---	---
Potassium	ppm	ASTM D5185m	>20	**7**	---	---
Water	%	ASTM D6304	>0.05	**45.9**	---	---
ppm Water	ppm	ASTM D6304	>500	**459000**	---	---

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>5000	▲ **14288**	---	---
Particles >6µm		ASTM D7647	>1300	▲ **7783**	---	---
Particles >14µm		ASTM D7647	>160	▲ **1326**	---	---
Particles >21µm		ASTM D7647	>40	▲ **447**	---	---
Particles >38µm		ASTM D7647	>10	▲ **69**	---	---
Particles >71µm		ASTM D7647	>3	▲ **7**	---	---
Oil Cleanliness		ISO 4406 (c)	>19/17/14	▲ **21/20/18**	---	---

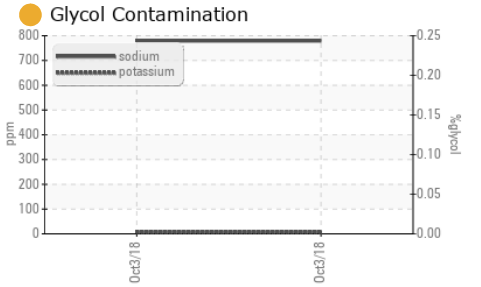
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		▲ **13.83**	---	---

OIL ANALYSIS REPORT

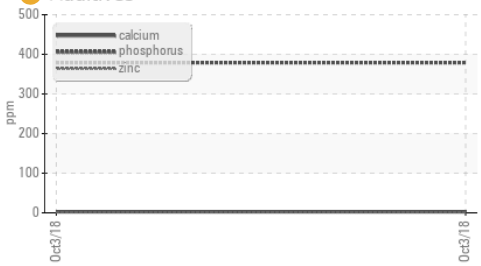
Particle Trend



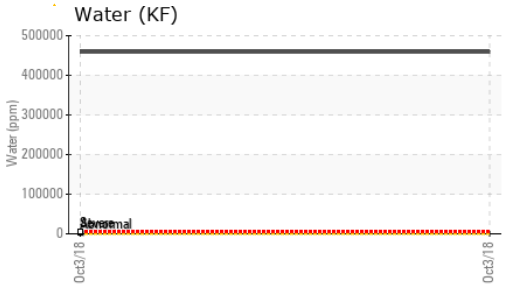
Glycol Contamination



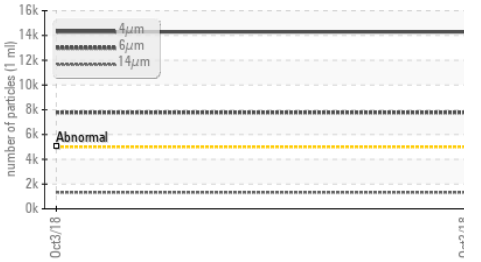
Additives



Water (KF)

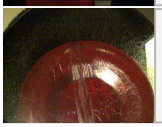


Particle Trend



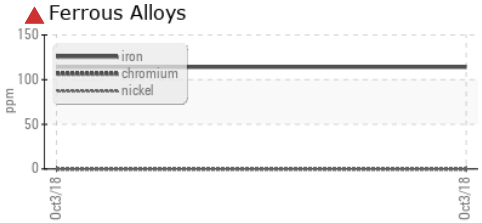
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	---	---
Yellow Metal	scalar	*Visual	NONE	**NONE**	---	---
Precipitate	scalar	*Visual	NONE	**NONE**	---	---
Silt	scalar	*Visual	NONE	**NONE**	---	---
Debris	scalar	*Visual	NONE	**NONE**	---	---
Sand/Dirt	scalar	*Visual	NONE	**NONE**	---	---
Appearance	scalar	*Visual	NORML	**NORML**	---	---
Odor	scalar	*Visual	NORML	**NORML**	---	---
Emulsified Water	scalar	*Visual	>0.05	**>10%**	---	---
Free Water	scalar	*Visual		**NEG**	---	---

FLUID PROPERTIES		method	limit/base	current	history1	history2
pH	Scale 0-14	ASTM D1287		▲ **7.00**	---	---
Visc @ 40°C	cSt	ASTM D445		▲ **30.27**	---	---

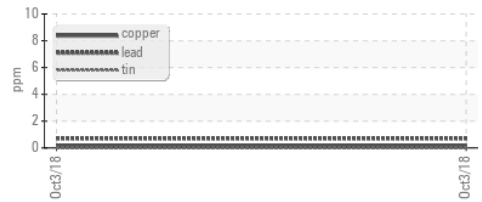
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color				*no image*	*no image*
Bottom				*no image*	*no image*

GRAPHS

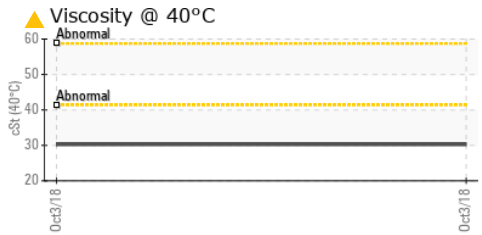
Ferrous Alloys



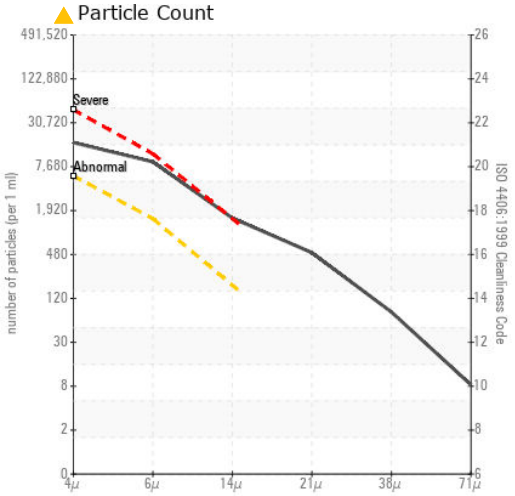
Non-ferrous Metals



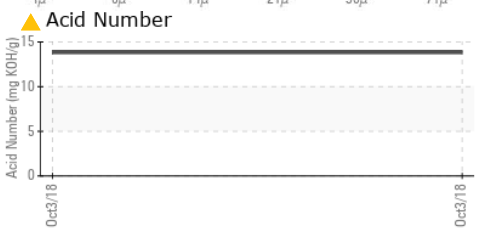
Viscosity @ 40°C



Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC04574296 **Received** : 18 Oct 2018
Lab Number : 04574296 **Tested** : 25 Oct 2018
Unique Number : 8368212 **Diagnosed** : 25 Oct 2018 - Doug Bogart
Test Package : IND 2 (Additional Tests: KF, pH, PQ)

To discuss this sample report, contact Customer Service at 1-800-237-1369.
** - Denotes test methods that are outside of the ISO 17025 scope of accreditation.*
Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

CONSTELLIUM
4805 SECOND STREET
MUSCLE SHOALS, AL
US 35661
Contact: Randy Nichols
randall.nichols@constellium.com
T: (256)386-6956
F: