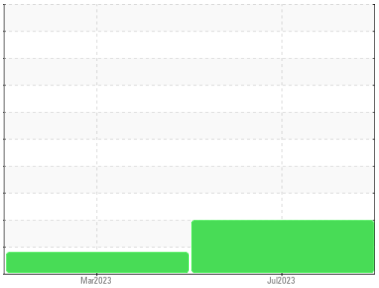
PROBLEM SUMMARY

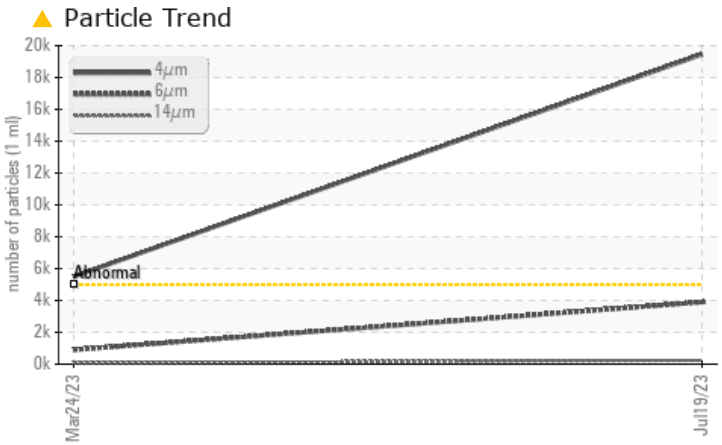
Sample Rating Trend



ISO

Machine Id
301 - 75% PRODUCT LIQUOR 2 SOUTH
Component
Pump
Fluid
MOBIL SHC 626 (1 GAL)

COMPONENT CONDITION SUMMARY



RECOMMENDATION

We recommend you service the filters on this component. We recommend an early resample to monitor this condition. Analytical Ferrography: Results are not indicating any significant wear issues are present with typical ferrous rubbing wear being the primary wear type. There is a single cutting wear particle that does not appear to be a result of mechanical wear. Particle count results show a slight uptick into an abnormal alarm - analytical Ferrography is not indicating this is anything other than environmental contamination - consider verifying that the sample was collected in a manner to exclude any dirt/debris, check the system for any possible debris entry points, and correct them if possible.

PROBLEMATIC TEST RESULTS

Sample Status				ABNORMAL	ATTENTION	---
Particles >4µm		ASTM D7647	>5000	▲ **19456**	▲ 5497	---
Particles >6µm		ASTM D7647	>1300	▲ **3893**	901	---
Particles >14µm		ASTM D7647	>160	▲ **232**	76	---
Particles >21µm		ASTM D7647	>40	▲ **74**	20	---
Oil Cleanliness		ISO 4406 (c)	>19/17/14	▲ **21/19/15**	▲ 20/17/13	---

Customer Id: GRAMAC
Sample No.: WC0824328
Lab Number: 05904959
Test Package: PLANT

To manage this report scan the QR code

To discuss the diagnosis or test data:
Aaron Black +1
aaron.black@wearcheck.com

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

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Change Filter	---	---	?	We recommend you service the filters on this component.
Resample	---	---	?	We recommend an early resample to monitor this condition.

HISTORICAL DIAGNOSIS

24 Mar 2023 Diag: Aaron Black

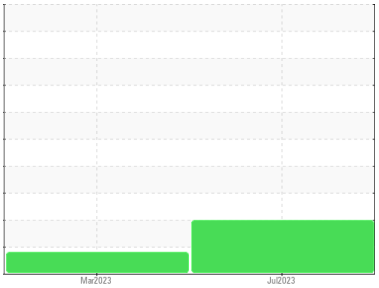
ISO

Resample at the next service interval to monitor. Analytical Ferrography: Results appear normal, with typical amounts of ferrous rubbing wear and contamination present.All component wear rates are normal. The direct-reading & analytical ferrographic results are normal indicating no abnormal wear in the system. There is a light amount of silt (particulates < 14 microns in size) present in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



ISO

Machine Id
301 - 75% PRODUCT LIQUOR 2 SOUTH
Component
Pump
Fluid
MOBIL SHC 626 (1 GAL)

DIAGNOSIS

Recommendation
We recommend you service the filters on this component. We recommend an early resample to monitor this condition. Analytical Ferrography: Results are not indicating any significant wear issues are present with typical ferrous rubbing wear being the primary wear type. There is a single cutting wear particle that does not appear to be a result of mechanical wear. Particle count results show a slight uptick into an abnormal alarm - analytical Ferrography is not indicating this is anything other than environmental contamination - consider verifying that the sample was collected in a manner to exclude any dirt/debris, check the system for any possible debris entry points, and correct them if possible.

Wear
All component wear rates are normal. The direct-reading & analytical ferrographic results are normal indicating no abnormal wear in the system.

Contaminants
There is a moderate amount of silt (particulates < 14 microns in size) present in the oil. The water content is negligible.

Oil Condition
The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**WC0824328**	WC0783640	---
Sample Date		Client Info		**19 Jul 2023**	24 Mar 2023	---
Machine Age	mths	Client Info		**0**	0	---
Oil Age	mths	Client Info		**3**	0	---
Oil Changed		Client Info		**Not Changd**	N/A	---
Sample Status				**ABNORMAL**	ATTENTION	---

WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184		**14**	12	---
Iron	ppm	ASTM D5185m	>90	**0**	0	---
Chromium	ppm	ASTM D5185m	>5	**0**	0	---
Nickel	ppm	ASTM D5185m	>5	**<1**	0	---
Titanium	ppm	ASTM D5185m	>3	**0**	0	---
Silver	ppm	ASTM D5185m	>3	**0**	0	---
Aluminum	ppm	ASTM D5185m	>7	**0**	<1	---
Lead	ppm	ASTM D5185m	>12	**0**	0	---
Copper	ppm	ASTM D5185m	>30	**0**	0	---
Tin	ppm	ASTM D5185m	>9	**0**	0	---
Vanadium	ppm	ASTM D5185m		**0**	0	---
Cadmium	ppm	ASTM D5185m		**0**	0	---

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**0**	0	---
Barium	ppm	ASTM D5185m		**0**	0	---
Molybdenum	ppm	ASTM D5185m		**0**	0	---
Manganese	ppm	ASTM D5185m		**0**	<1	---
Magnesium	ppm	ASTM D5185m		**0**	0	---
Calcium	ppm	ASTM D5185m		**0**	0	---
Phosphorus	ppm	ASTM D5185m		**409**	438	---
Zinc	ppm	ASTM D5185m		**0**	0	---
Sulfur	ppm	ASTM D5185m		**0**	0	---

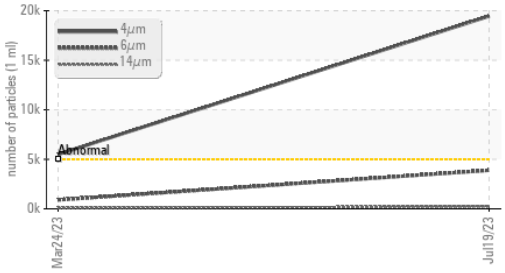
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>60	**2**	2	---
Sodium	ppm	ASTM D5185m		**<1**	0	---
Potassium	ppm	ASTM D5185m	>20	**0**	<1	---
Water	%	ASTM D6304		**0.024**	---	---
ppm Water	ppm	ASTM D6304	>.1	**240**	---	---

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>5000	▲ **19456**	▲ 5497	---
Particles >6µm		ASTM D7647	>1300	▲ **3893**	901	---
Particles >14µm		ASTM D7647	>160	▲ **232**	76	---
Particles >21µm		ASTM D7647	>40	▲ **74**	20	---
Particles >38µm		ASTM D7647	>10	**5**	3	---
Particles >71µm		ASTM D7647	>3	**0**	0	---
Oil Cleanliness		ISO 4406 (c)	>19/17/14	▲ **21/19/15**	▲ 20/17/13	---

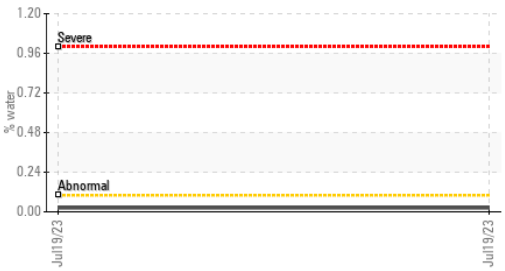
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		**0.62**	0.50	---

OIL ANALYSIS REPORT

Particle Trend

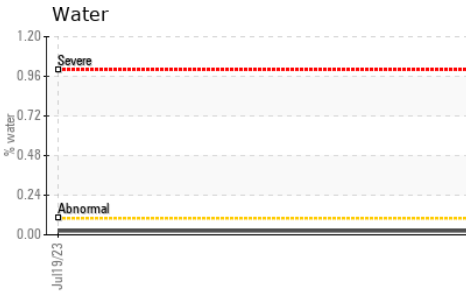


Water

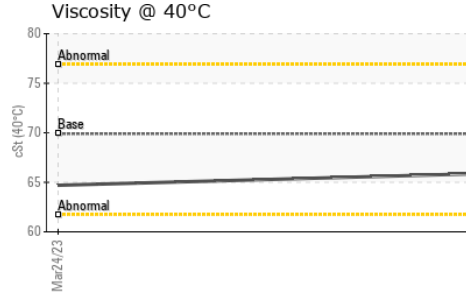


PQ

Water

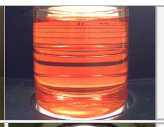
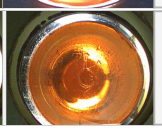


Viscosity @ 40°C



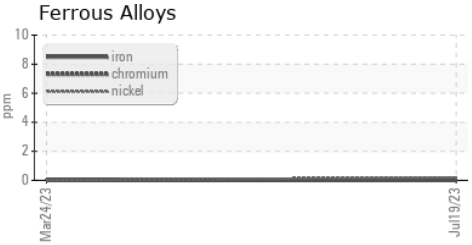
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	---
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	---
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	---
Silt	scalar	*Visual	NONE	**NONE**	NONE	---
Debris	scalar	*Visual	NONE	**NONE**	NONE	---
Sand/Dirt	scalar	*Visual	NONE	**NONE**	NONE	---
Appearance	scalar	*Visual	NORML	**NORML**	NORML	---
Odor	scalar	*Visual	NORML	**NORML**	NORML	---
Emulsified Water	scalar	*Visual		**0.2%**	NEG	---
Free Water	scalar	*Visual		**NEG**	NEG	---

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	69.9	**65.9**	64.7	---

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

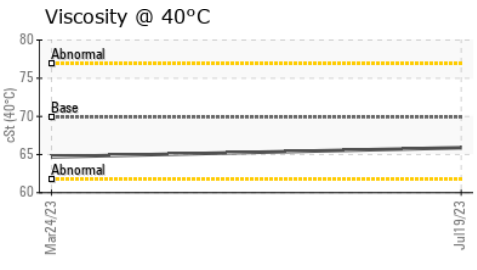
GRAPHS

Ferrous Alloys

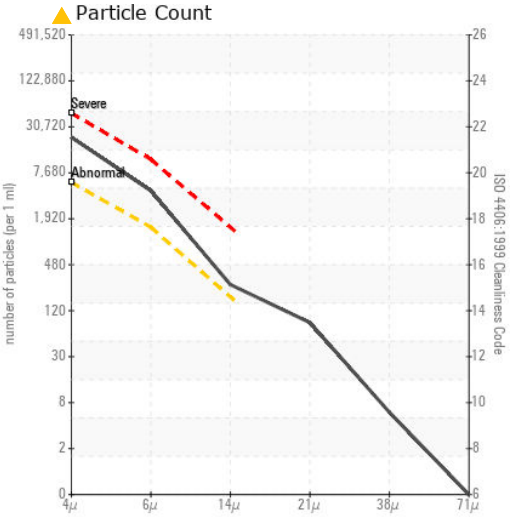


Non-ferrous Metals

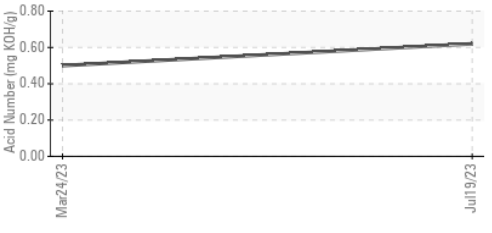
Viscosity @ 40°C



Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0824328 **Received** : 21 Jul 2023
Lab Number : 05904959 **Diagnosed** : 03 Aug 2023
Unique Number : 10566315 **Diagnostician** : Aaron Black
Test Package : PLANT (Additional Tests: A-FERR)

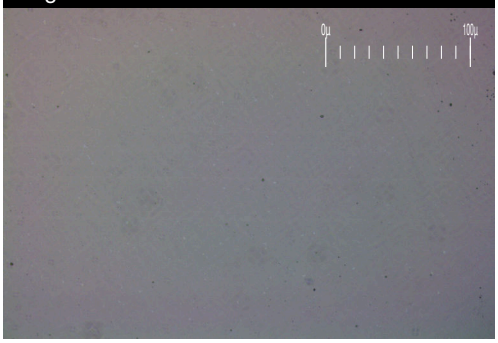
To discuss this sample report, contact Customer Service at 1-800-237-1369.
** - Denotes test methods that are outside of the ISO 17025 scope of accreditation.*
Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

GRAPHIC PACKAGING INTERNATIONAL
100 GRAPHIC PACKAGING INTERNATIONAL
MACON, GA
US 31206
Contact: DARYL SPRINGER
daryl.springer@graphicpkg.com
T: (478)784-3677
F:

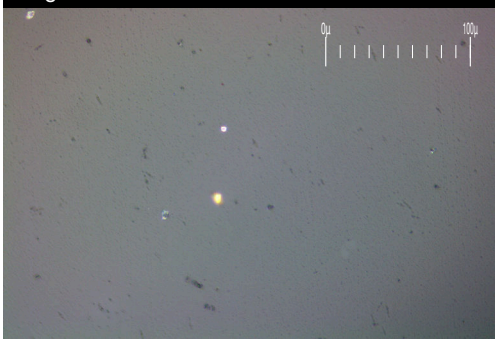
FERROGRAPHY REPORT

Machine Id
301 - 75% PRODUCT LIQUOR 2 SOUTH
Component
Pump
Fluid
MOBIL SHC 626 (1 GAL)

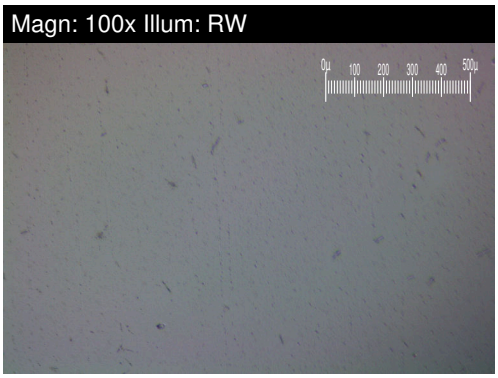
Magn: 500x Illum: RW



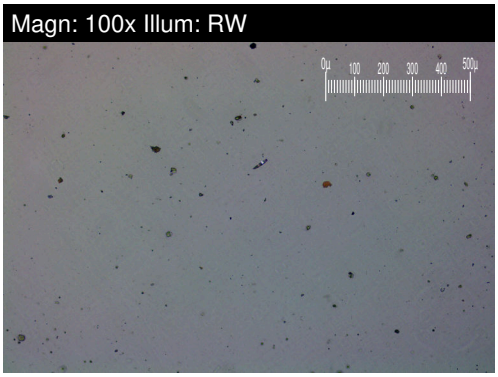
Magn: 500x Illum: RW



Magn: 100x Illum: RW



Magn: 100x Illum: RW



FERROGRAPHY		method	limit/base	current	history1	history2
Ferrous Rubbing	Scale 0-10	*ASTM D7684		**2**	2	
Ferrous Sliding	Scale 0-10	*ASTM D7684				
Ferrous Cutting	Scale 0-10	*ASTM D7684		**1**		
Ferrous Rolling	Scale 0-10	*ASTM D7684				
Ferrous Break-in	Scale 0-10	*ASTM D7684				
Ferrous Spheres	Scale 0-10	*ASTM D7684				
Ferrous Black Oxides	Scale 0-10	*ASTM D7684				
Ferrous Red Oxides	Scale 0-10	*ASTM D7684		**1**		
Ferrous Corrosive	Scale 0-10	*ASTM D7684				
Ferrous Other	Scale 0-10	*ASTM D7684				
Nonferrous Rubbing	Scale 0-10	*ASTM D7684				
Nonferrous Sliding	Scale 0-10	*ASTM D7684				
Nonferrous Cutting	Scale 0-10	*ASTM D7684				
Nonferrous Rolling	Scale 0-10	*ASTM D7684				
Nonferrous Other	Scale 0-10	*ASTM D7684				
Carbonaceous Material	Scale 0-10	*ASTM D7684				
Lubricant Degradation	Scale 0-10	*ASTM D7684				
Sand/Dirt	Scale 0-10	ASTM D7684				
Fibres	Scale 0-10	*ASTM D7684				
Spheres	Scale 0-10	*ASTM D7684				
Other	Scale 0-10	*ASTM D7684		**2**	2	

WEAR

All component wear rates are normal. The direct-reading & analytical ferrographic results are normal indicating no abnormal wear in the system.

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