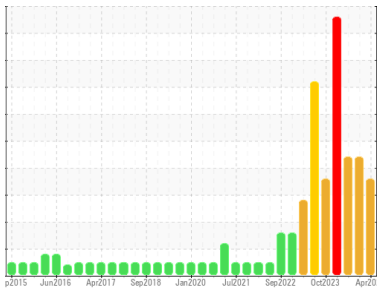
OIL ANALYSIS REPORT

Sample Rating Trend



INSOLUBLES

Machine Id
HARRIS HRB10 HRB (S/N 2887)
Component
Hydraulic System
Fluid
AW HYDRAULIC OIL ISO 46 (--- GAL)

DIAGNOSIS

Recommendation
We recommend that you use depth filtration to remove insolubles from the oil and to reduce the levels of varnish in the system. Alternatively draining a percentage of the oil and topping up with fresh oil (sweetening the oil) may provide a reduction in the varnish potential level.

Wear
The iron level is abnormal.

Contamination
There is a high amount of particulates present in the oil. MPC (Membrane Patch Colorimetry) test indicates a high concentration of varnish present.

Fluid Condition
The AN level is acceptable for this fluid.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**PTK0004985**	PTK0004970	PTK0004971
Sample Date		Client Info		**22 Apr 2024**	13 Mar 2024	08 Jan 2024
Machine Age	hrs	Client Info		**29661**	29515	29229
Oil Age	hrs	Client Info		**0**	0	0
Oil Changed		Client Info		**N/A**	N/A	N/A
Sample Status				**SEVERE**	SEVERE	SEVERE

CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method	>0.1	**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>20	▲ **40**	▲ 49	▲ 52
Chromium	ppm	ASTM D5185m	>10	**0**	<1	<1
Nickel	ppm	ASTM D5185m	>10	**0**	0	<1
Titanium	ppm	ASTM D5185m		**0**	1	2
Silver	ppm	ASTM D5185m		**0**	0	<1
Aluminum	ppm	ASTM D5185m	>10	**9**	▲ 12	▲ 13
Lead	ppm	ASTM D5185m	>10	**0**	3	5
Copper	ppm	ASTM D5185m	>75	**15**	17	21
Tin	ppm	ASTM D5185m	>10	**0**	<1	1
Vanadium	ppm	ASTM D5185m		**0**	0	<1
Cadmium	ppm	ASTM D5185m		**0**	0	<1

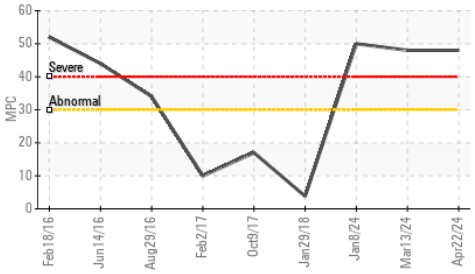
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	5	**0**	0	0
Barium	ppm	ASTM D5185m	5	**0**	0	8
Molybdenum	ppm	ASTM D5185m	5	**0**	0	<1
Manganese	ppm	ASTM D5185m		**0**	<1	3
Magnesium	ppm	ASTM D5185m	25	**36**	26	40
Calcium	ppm	ASTM D5185m	200	**51**	39	46
Phosphorus	ppm	ASTM D5185m	300	**285**	294	290
Zinc	ppm	ASTM D5185m	370	**310**	293	323
Sulfur	ppm	ASTM D5185m	2500	**4880**	4904	4148

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>20	**10**	14	16
Sodium	ppm	ASTM D5185m		**48**	52	57
Potassium	ppm	ASTM D5185m	>20	**<1**	0	5

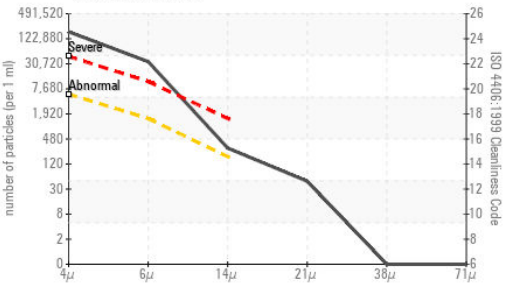
FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>5000	▲ **155740**	▲ 326889	▲ 165002
Particles >6µm		ASTM D7647	>1300	▲ **30049**	▲ 130047	▲ 83943
Particles >14µm		ASTM D7647	>160	▲ **256**	▲ 3023	▲ 2773
Particles >21µm		ASTM D7647	>40	▲ **41**	▲ 385	▲ 396
Particles >38µm		ASTM D7647	>10	**0**	2	4
Particles >71µm		ASTM D7647	>3	**0**	0	1
Oil Cleanliness		ISO 4406 (c)	>19/17/14	▲ **24/22/15**	▲ 26/24/19	▲ 25/24/19

OIL ANALYSIS REPORT

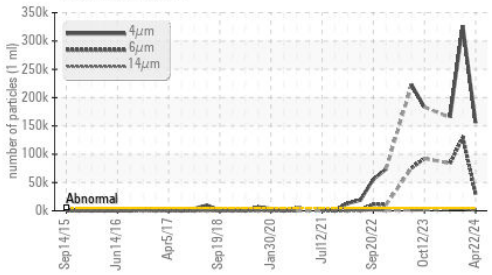
Varnish Potential



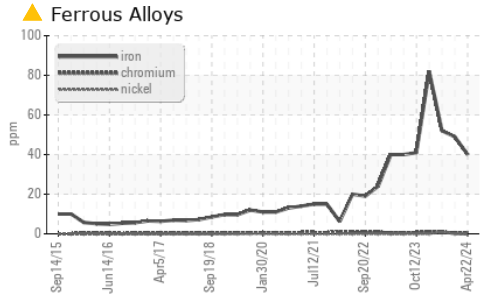
Particle Count



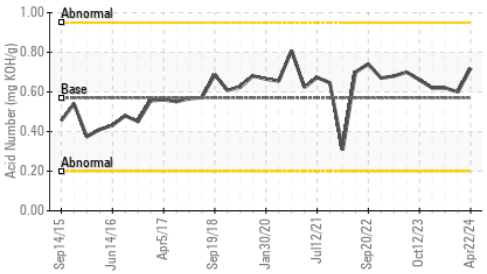
Particle Trend



Ferrous Alloys



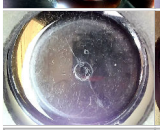
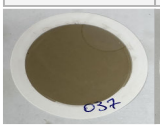
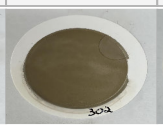
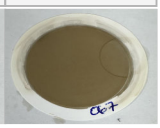
Acid Number



FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.57	**0.719**	0.60	0.62
MPC Varnish Potential	Scale	ASTM D7843	>15	▲ **48**	▲ 48	▲ 50

VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Appearance	scalar	*Visual	NORML	**NORML**	NORML	NORML
Odor	scalar	*Visual	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	**NEG**	NEG	NEG
Free Water	scalar	*Visual		**NEG**	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	46	**45.3**	45.5	45.5

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

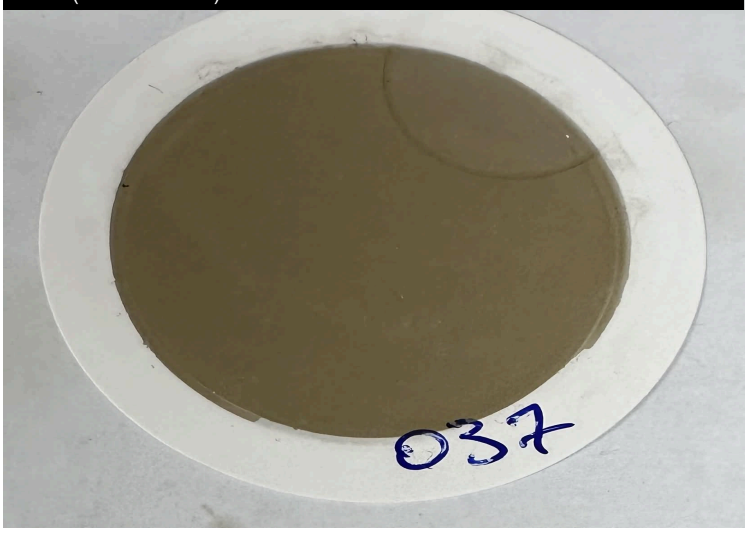
Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PTK0004985 **Received** : 24 Apr 2024
Lab Number : 06159037 **Tested** : 01 May 2024
Unique Number : 10994460 **Diagnosed** : 01 May 2024 - Jonathan Hester
Test Package : MOB 2 (Additional Tests: MPC)

Certificate L2367

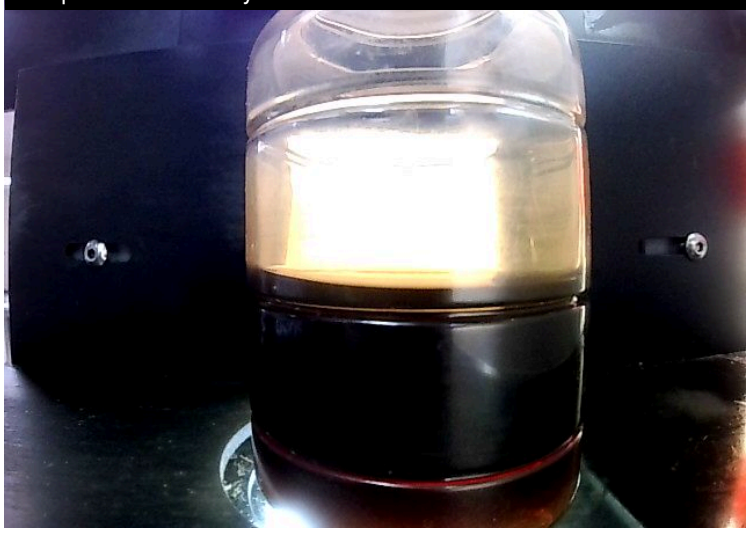
To discuss this sample report, contact Customer Service at 1-800-237-1369.
** - Denotes test methods that are outside of the ISO 17025 scope of accreditation.*
Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

SIMS METAL
15000 SOUTHLAWN LN
ROCKVILLE, MD
US 20850
Contact: JOHN KELLER
john.keller@simsmm.com
T: (301)424-3000
F:

MPC (Varnish Test)



Sample Color & Clarity



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