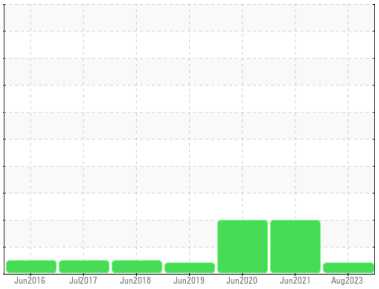
PROBLEM SUMMARY

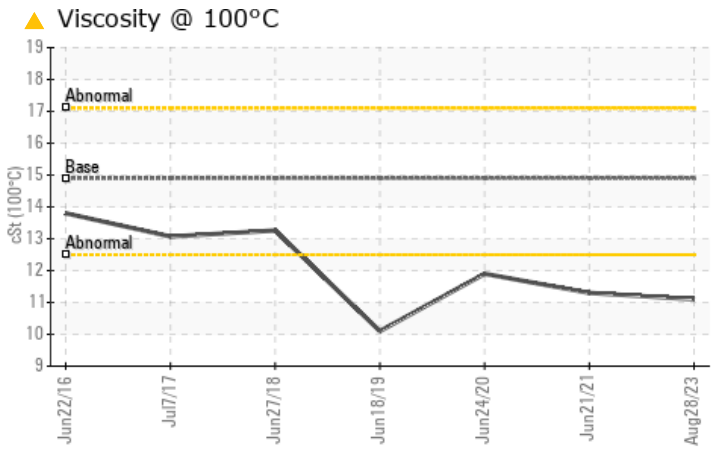
Sample Rating Trend



VISCOSITY

Machine Id
HYSTER 184
Component
Diesel Engine
Fluid
ROYAL PURPLE MOTOR OIL 15W40 (14 QTS)

COMPONENT CONDITION SUMMARY



RECOMMENDATION

No corrective action is recommended at this time.
Resample at the next service interval to monitor.

PROBLEMATIC TEST RESULTS

Sample Status				ATTENTION	ABNORMAL	ABNORMAL
Visc @ 100°C	cSt	ASTM D445	14.9	▲ **11.1**	▲ 11.3	▲ 11.9

Customer Id: SULLAP
Sample No.: RP0033652
Lab Number: 06014605
Test Package: IND 2

To manage this report scan the QR code

To discuss the diagnosis or test data:
Jonathan Hester +1 919-379-4092 x4092
jhester@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

21 Jun 2021 Diag: Jonathan Hester

DIRT

No corrective action is recommended at this time. Resample at the next service interval to monitor.All component wear rates are normal. Elemental level of silicon (Si) above normal indicating ingress of seal material. The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

view report

24 Jun 2020 Diag: Don Baldridge

DIRT

Resample at the next service interval to monitor.All component wear rates are normal. Elemental level of silicon (Si) above normal indicating ingress of seal material. The oil viscosity is lower than normal for time on oil. The BN result indicates that there is suitable alkalinity remaining in the oil.

view report

18 Jun 2019 Diag: Jonathan Hester

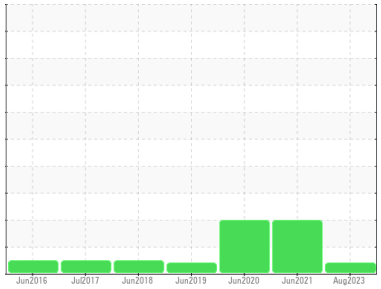
VISCOSITY

No corrective action is recommended at this time. Resample at the next service interval to monitor.All component wear rates are normal. Tests indicate that there is no fuel present in the oil. There is no indication of any contamination in the oil. The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



VISCOSITY

Machine Id
HYSTER 184
Component
Diesel Engine
Fluid
ROYAL PURPLE MOTOR OIL 15W40 (14 QTS)

DIAGNOSIS

Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**RP0033652**	RP0017811	RP0005640
Sample Date		Client Info		**28 Aug 2023**	21 Jun 2021	24 Jun 2020
Machine Age	hrs	Client Info		**815**	799	791
Oil Age	hrs	Client Info		**0**	18	10
Oil Changed		Client Info		**N/A**	Not Changd	Not Changd
Sample Status				**ATTENTION**	ABNORMAL	ABNORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>5	**<1.0**	<1.0	<1.0
Glycol		WC Method		**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	**8**	19	11
Chromium	ppm	ASTM D5185m	>20	**<1**	1	<1
Nickel	ppm	ASTM D5185m	>4	**<1**	0	0
Titanium	ppm	ASTM D5185m		**<1**	<1	0
Silver	ppm	ASTM D5185m	>3	**0**	1	0
Aluminum	ppm	ASTM D5185m	>20	**2**	0	3
Lead	ppm	ASTM D5185m	>40	**8**	8	3
Copper	ppm	ASTM D5185m	>330	**63**	46	22
Tin	ppm	ASTM D5185m	>15	**<1**	1	<1
Antimony	ppm	ASTM D5185m		**---**	0	2
Vanadium	ppm	ASTM D5185m		**0**	0	0
Cadmium	ppm	ASTM D5185m		**<1**	<1	<1

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	**2**	7	4
Barium	ppm	ASTM D5185m	0	**0**	0	0
Molybdenum	ppm	ASTM D5185m	100	**52**	55	60
Manganese	ppm	ASTM D5185m		**<1**	<1	<1
Magnesium	ppm	ASTM D5185m	60	**12**	13	13
Calcium	ppm	ASTM D5185m	3050	**2264**	2946	2619
Phosphorus	ppm	ASTM D5185m	1050	**1107**	1106	897
Zinc	ppm	ASTM D5185m	1200	**1260**	1138	971

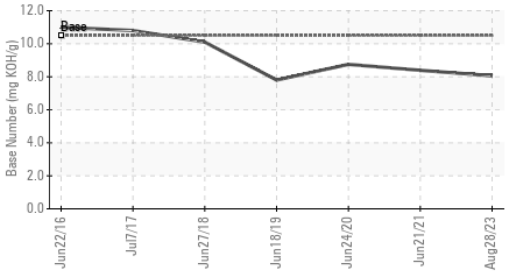
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**12**	▲ 31	▲ 33
Sodium	ppm	ASTM D5185m		**3**	4	2
Potassium	ppm	ASTM D5185m	>20	**2**	<1	1
Water	%	ASTM D6304	>0.2	**NEG**	NEG	NEG

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**0.1**	0	0.1
Nitration	Abs/cm	*ASTM D7624	>20	**3.8**	5	4.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	**21.5**	26.4	23.4

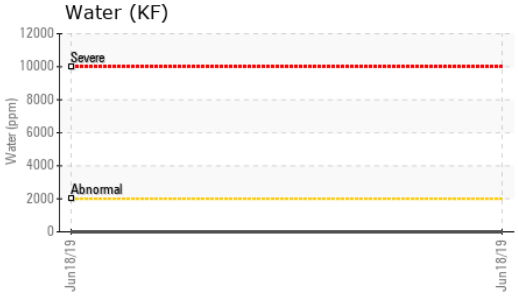
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**13.6**	16.8	15
Base Number (BN)	mg KOH/g	ASTM D2896	10.5	**8.06**	8.39	8.75

OIL ANALYSIS REPORT

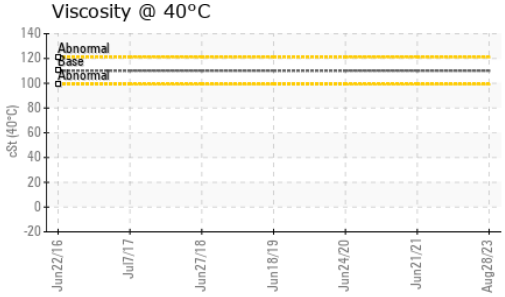
Base Number



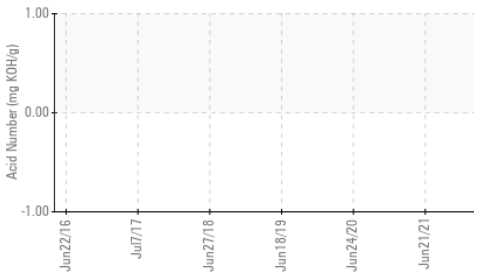
Water (KF)



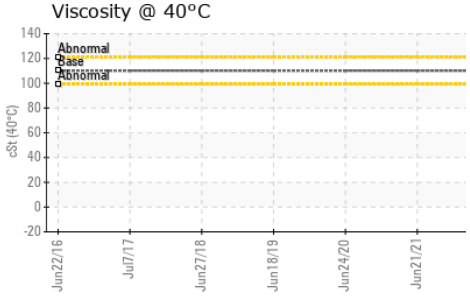
Viscosity @ 40°C



Acid Number



Viscosity @ 40°C

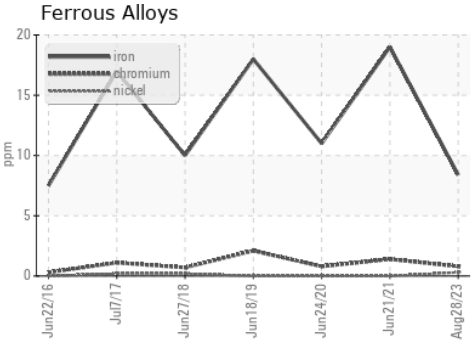


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

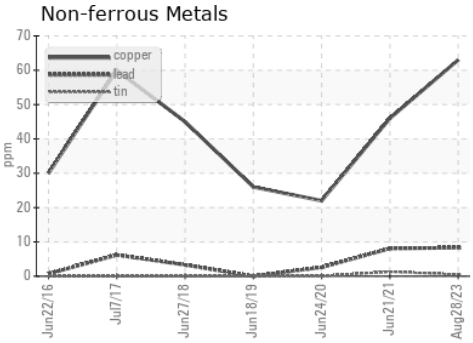
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14.9	▲ **11.1**	▲ 11.3	▲ 11.9

GRAPHS

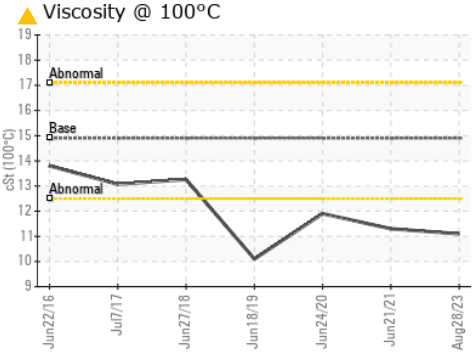
Ferrous Alloys



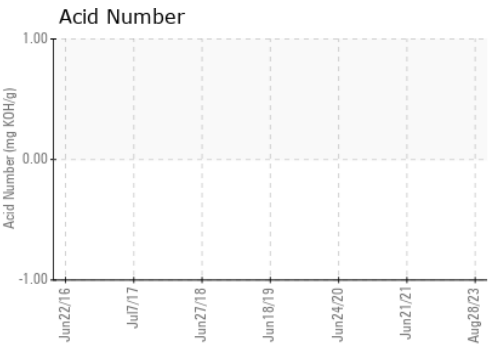
Non-ferrous Metals



▲ Viscosity @ 100°C



Acid Number



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : RP0033652 **Received** : 21 Nov 2023
Lab Number : 06014605 **Diagnosed** : 27 Nov 2023
Unique Number : 10753749 **Diagnostician** : Jonathan Hester
Test Package : IND 2 (Additional Tests: FT-IR, KV100, TBN)

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)

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