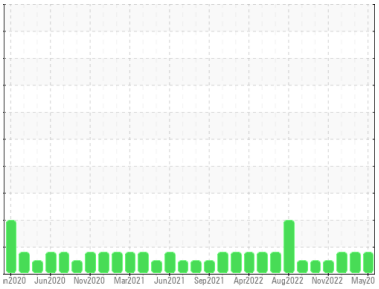
PROBLEM SUMMARY

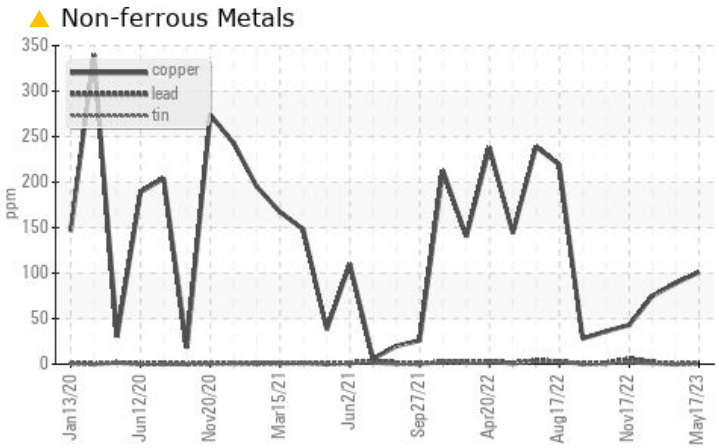
Machine Id
EG-0102 (S/N 5JD00083)
Component
Natural Gas Engine
Fluid
ROYAL PURPLE QUADREX 40 HB (85 GAL)

Sample Rating Trend



WEAR

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				**ABNORMAL**	ABNORMAL	ABNORMAL
Copper	ppm	ASTM D5185m	>35	▲ **101**	▲ 89	▲ 75

Customer Id: TEABOG
Sample No.: RP0035298
Lab Number: 05852531
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

26 Apr 2023 Diag: Doug Bogart

WEAR

No corrective action is recommended at this time. Resample at the next service interval to monitor.The copper level is abnormal. All other component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report

21 Feb 2023 Diag: Jonathan Hester

WEAR

No corrective action is recommended at this time. Resample at the next service interval to monitor.The copper level is abnormal. All other component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report

17 Nov 2022 Diag: Jonathan Hester

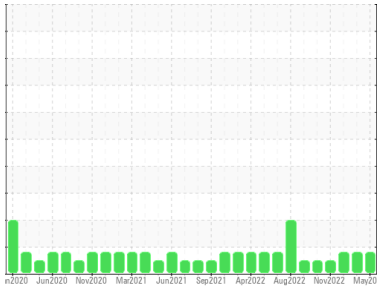
NORMAL

Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining 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



WEAR

Machine Id
EG-0102 (S/N 5JD00083)
Component
Natural Gas Engine
Fluid
ROYAL PURPLE QUADREX 40 HB (85 GAL)

DIAGNOSIS

▲ Recommendation

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

▲ Wear

The copper level is abnormal. In the absence of other significant wear metals, suspect copper due to sources other than wear (i.e. cooling core).

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**RP0035298**	RP0035201	RP0033783
Sample Date		Client Info		**17 May 2023**	26 Apr 2023	21 Feb 2023
Machine Age	hrs	Client Info		**187357**	185930	184936
Oil Age	hrs	Client Info		**2181**	2180	2180
Oil Changed		Client Info		**Not Changd**	Not Changd	Not Changd
Sample Status				**ABNORMAL**	ABNORMAL	ABNORMAL

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	**7**	6	7
Chromium	ppm	ASTM D5185m	>4	**<1**	<1	<1
Nickel	ppm	ASTM D5185m	>2	**0**	<1	0
Titanium	ppm	ASTM D5185m		**0**	0	0
Silver	ppm	ASTM D5185m	>3	**0**	<1	0
Aluminum	ppm	ASTM D5185m	>9	**4**	2	3
Lead	ppm	ASTM D5185m	>30	**<1**	0	2
Copper	ppm	ASTM D5185m	>35	▲ **101**	▲ 89	▲ 75
Tin	ppm	ASTM D5185m	>4	**1**	0	<1
Vanadium	ppm	ASTM D5185m		**<1**	0	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**3**	2	11
Barium	ppm	ASTM D5185m		**0**	0	0
Molybdenum	ppm	ASTM D5185m	140	**147**	142	142
Manganese	ppm	ASTM D5185m		**<1**	<1	<1
Magnesium	ppm	ASTM D5185m	1100	**1135**	1066	1077
Calcium	ppm	ASTM D5185m	2500	**2936**	2714	2871
Phosphorus	ppm	ASTM D5185m	260	**284**	260	268
Zinc	ppm	ASTM D5185m	290	**358**	333	347

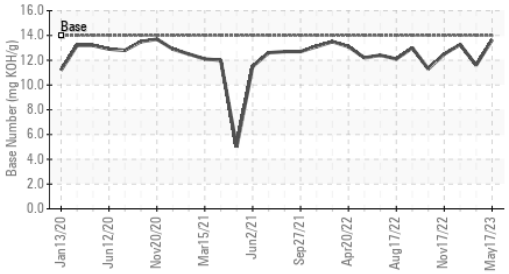
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>+100	**8**	6	6
Sodium	ppm	ASTM D5185m		**4**	4	4
Potassium	ppm	ASTM D5185m	>20	**45**	43	42
Water	%	ASTM D6304	>0.1	**---**	0.088	---
ppm Water	ppm	ASTM D6304	>1000	**---**	887.4	---
Glycol	%	*ASTM D2982		**---**	0.0	0.0

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844		**0.1**	0	0.1
Nitration	Abs/cm	*ASTM D7624	>20	**7.1**	1.4	7.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	**41.4**	10.9	40.5

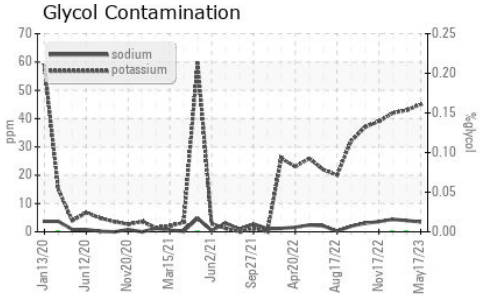
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**61.8**	2.5	60.2
Acid Number (AN)	mg KOH/g	ASTM D8045		**0.91**	0.87	0.93
Base Number (BN)	mg KOH/g	ASTM D2896	14	**13.65**	11.60	13.26

OIL ANALYSIS REPORT

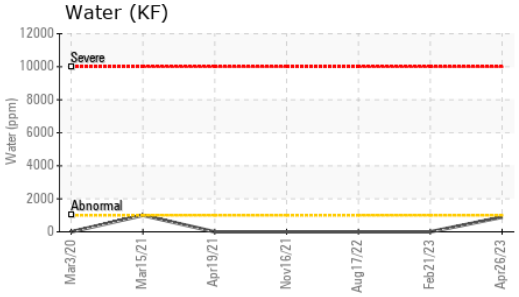
Base Number



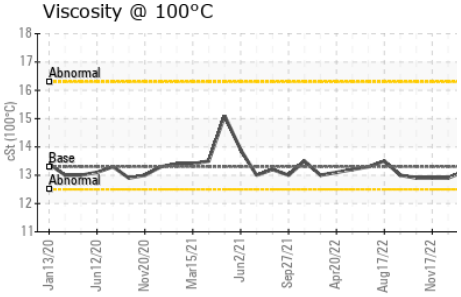
Glycol Contamination



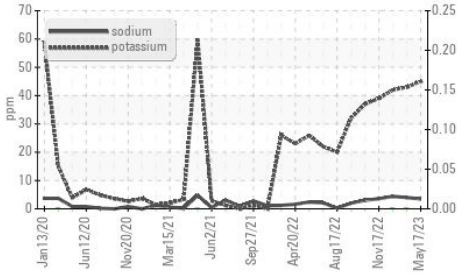
Water (KF)



Viscosity @ 100°C



Glycol Contamination

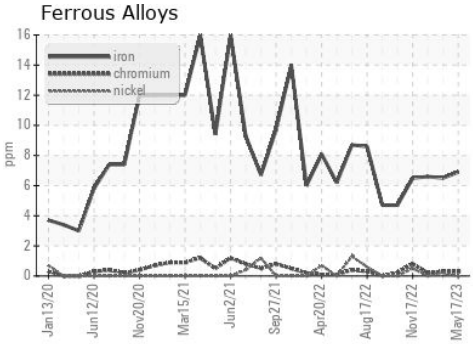


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	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

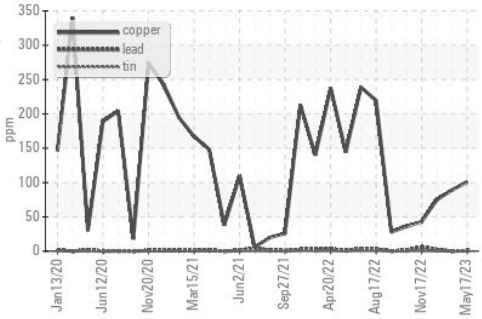
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	13.3	**12.9**	13.14	12.9

GRAPHS

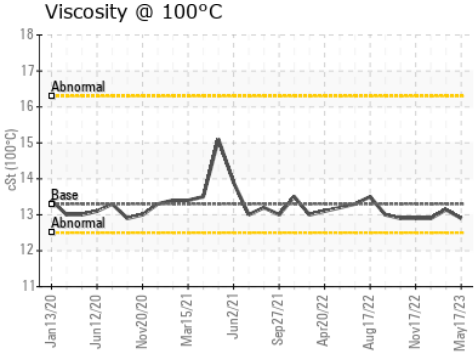
Ferrous Alloys



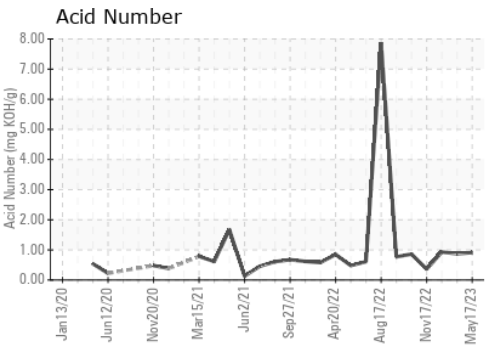
Non-ferrous Metals



Viscosity @ 100°C



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : RP0035298 **Received** : 19 May 2023
Lab Number : 05852531 **Diagnosed** : 25 May 2023
Unique Number : 10481886 **Diagnostician** : Jonathan Hester
Test Package : IND 2 (Additional Tests: FT-IR, Glycol, KV100, TBN)

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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