



OIL ANALYSIS REPORT

WEAR	SEVERE
CONTAMINATION	ABNORMAL
FLUID CONDITION	ABNORMAL

Area
GUAY SON [CONHER]
Machine Id
PERKINS Ibaco Ismar 6 Aux-2
Component
Auxiliary Engine
Fluid
RALOY 15W40 (9 LTR)

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition. Please note that the oil was too thick to perform some of the normal laboratory tests. (Customer Sample Comment: Fluid: Raloy 15W40)

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		KL0014188	KL0011412	KL0010248
Sample Date		Client Info		20 Mar 2024	30 Mar 2023	24 Feb 2023
Machine Age	hrs	Client Info		0	10432	9856
Oil Age	hrs	Client Info		250	176	24
Filter Age	hrs	Client Info		250	176	24
Oil Changed		Client Info		Changed	Not Changd	Not Changd
Filter Changed		Client Info		Changed	Not Changd	Not Changd
Sample Status				SEVERE	ATTENTION	MARGINAL

WEAR

The tin level is abnormal. Piston, ring and cylinder wear is indicated.

Iron	ppm	ASTM D5185m	>100	▲ 950	27	6
Chromium	ppm	ASTM D5185m	>20	▲ 23	<1	<1
Nickel	ppm	ASTM D5185m	>2	2	0	0
Titanium	ppm	ASTM D5185m	>2	<1	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	▲ 28	<1	2
Lead	ppm	ASTM D5185m	>40	13	0	<1
Copper	ppm	ASTM D5185m	>330	16	1	<1
Tin	ppm	ASTM D5185m	>15	▲ 22	<1	<1
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

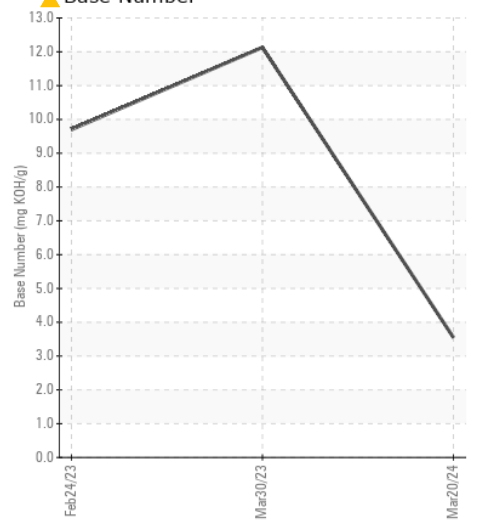
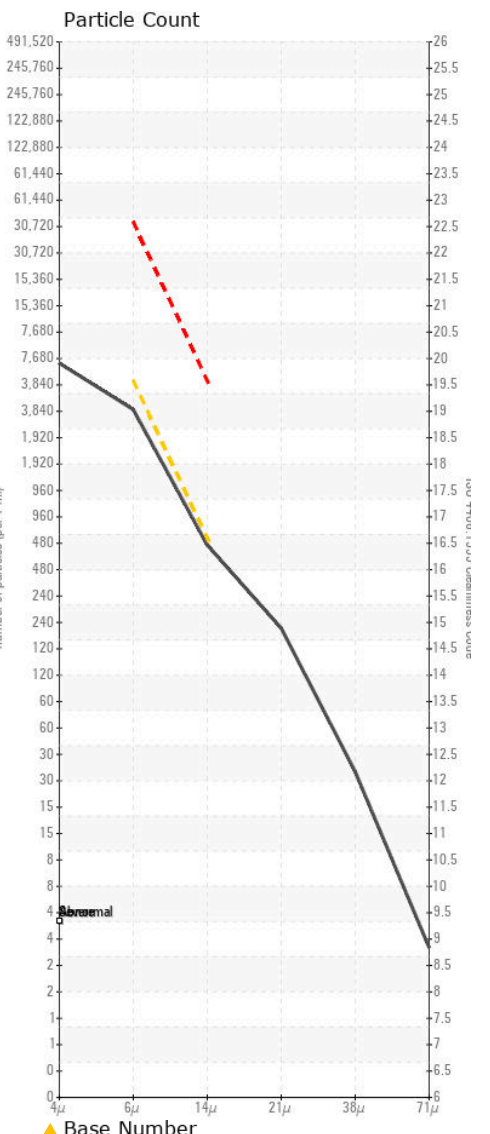
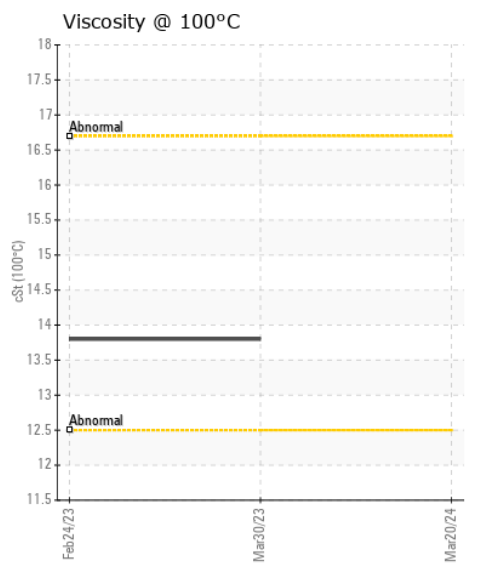
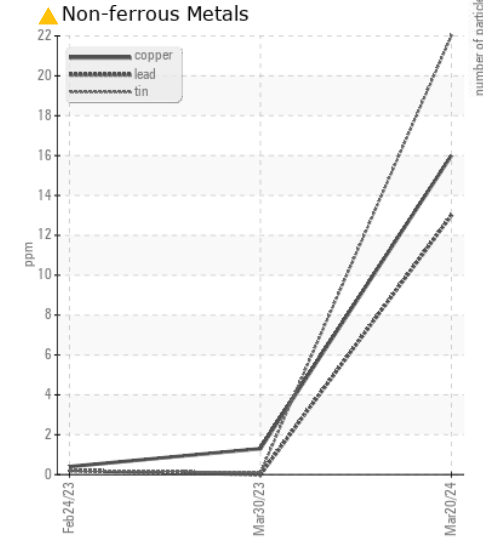
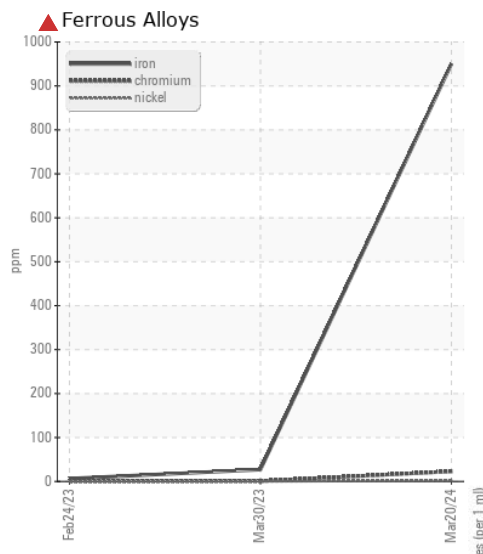
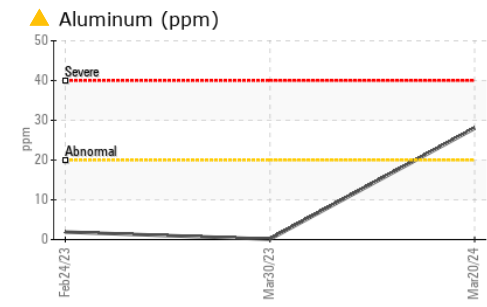
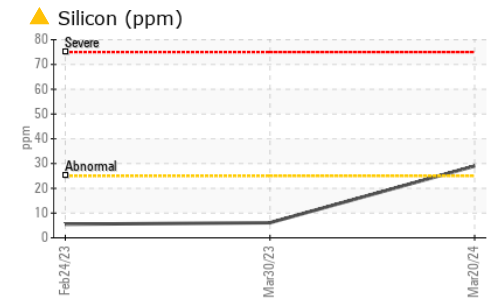
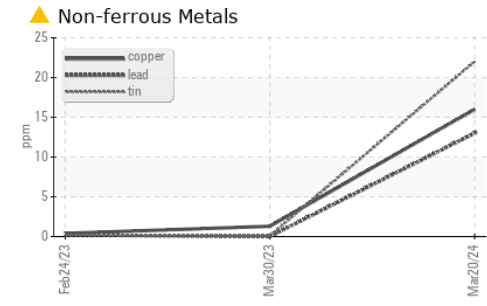
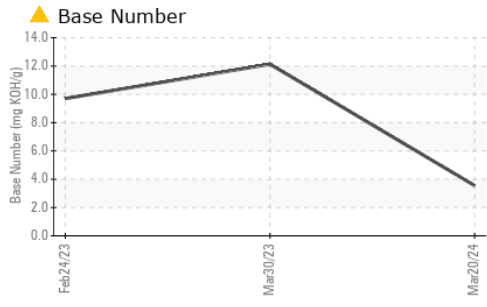
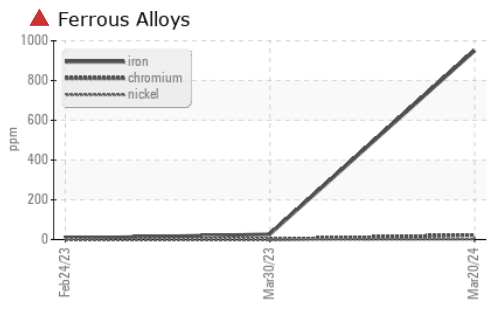
Elemental level of silicon (Si) above normal indicating ingress of seal material. The amount and size of particulates present in the system are acceptable.

Silicon	ppm	ASTM D5185m	>25	▲ 29	6	6
Potassium	ppm	ASTM D5185m	>20	1	2	2
Fuel		WC Method	>4.0	<1.0	<1.0	▲ 2.6
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844		0.4	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	26.1	14.5	7.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	34.7	22.5	15.9
Particles >4µm		ASTM D7647		6290	11849	---
Particles >6µm		ASTM D7647	>5000	3426	6455	---
Particles >14µm		ASTM D7647	>640	583	1099	---
Particles >21µm		ASTM D7647	>160	196	370	---
Particles >38µm		ASTM D7647	>40	30	57	---
Particles >71µm		ASTM D7647	>10	3	6	---
Oil Cleanliness		ISO 4406 (c)	>19/16	19/16	20/17	---
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

FLUID CONDITION

The BN level is low. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

Sodium	ppm	ASTM D5185m		8	0	<1
Boron	ppm	ASTM D5185m		0	0	0
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		1	<1	<1
Manganese	ppm	ASTM D5185m		8	<1	<1
Magnesium	ppm	ASTM D5185m		4	10	8
Calcium	ppm	ASTM D5185m		1583	3607	3019
Phosphorus	ppm	ASTM D5185m		686	1289	1166
Zinc	ppm	ASTM D5185m		759	1713	1462
Sulfur	ppm	ASTM D5185m		2126	3908	3919
Oxidation	Abs/.1mm	*ASTM D7414	>25	68.2	21.0	11.0
Base Number (BN)	mg KOH/g	ASTM D2896		▲ 3.55	12.13	9.7
Visc @ 100°C	cSt	ASTM D445		---	13.8	13.8



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KL0014188 **Received** : 18 Apr 2024
Lab Number : 06153317 **Tested** : 24 Apr 2024
Unique Number : 10983395 **Diagnosed** : 24 Apr 2024 - Jonathan Hester
Test Package : MOB 2 (Additional Tests: PrtCount)

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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)