



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	ABNORMAL

Area
GUAY SON [CONHER]
Machine Id
PERKINS Cozar IX AUX IBACO
Component
Diesel Engine
Fluid
RALOY 15W40 (9 LTR)

RECOMMENDATION

We advise that you check the fuel injection system. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. (Customer Sample Comment: Fluid: Raloy 15W40)

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		KL0014197	KL0011406	KL0010229
Sample Date		Client Info		20 Mar 2024	30 Mar 2023	17 Feb 2023
Machine Age	hrs	Client Info		0	11354	0
Oil Age	hrs	Client Info		200	80	0
Filter Age	hrs	Client Info		200	80	0
Oil Changed		Client Info		Changed	Not Changd	N/A
Filter Changed		Client Info		Changed	Not Changd	N/A
Sample Status				ABNORMAL	ATTENTION	ABNORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>250	55	26	40
Chromium	ppm	ASTM D5185m	>10	<1	0	<1
Nickel	ppm	ASTM D5185m	>5	0	0	<1
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>35	2	<1	<1
Lead	ppm	ASTM D5185m	>100	1	2	4
Copper	ppm	ASTM D5185m	>60	<1	3	<1
Tin	ppm	ASTM D5185m	>5	<1	0	<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

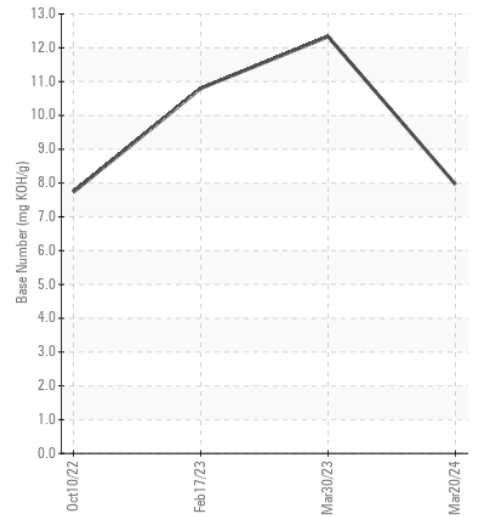
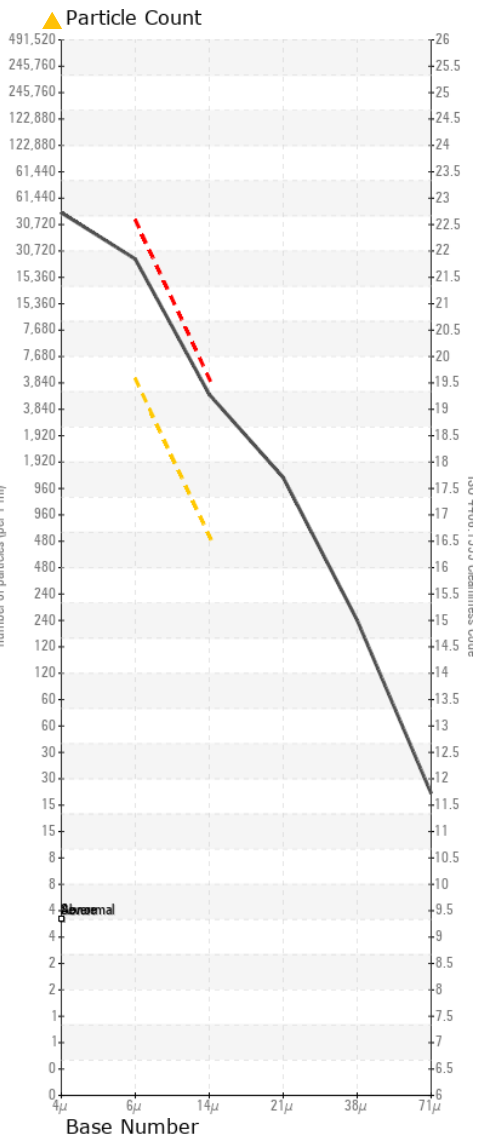
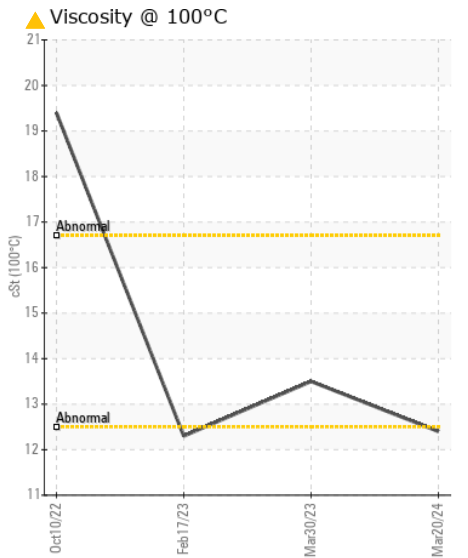
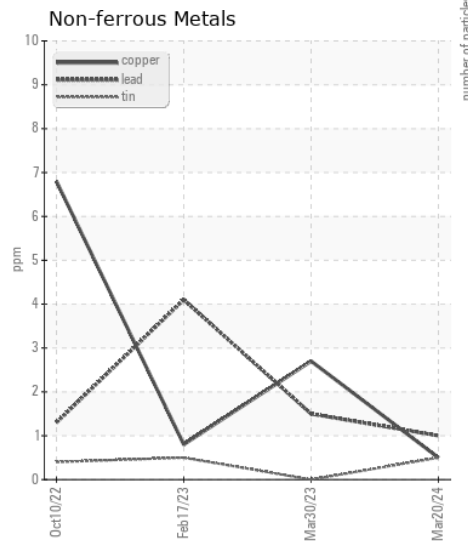
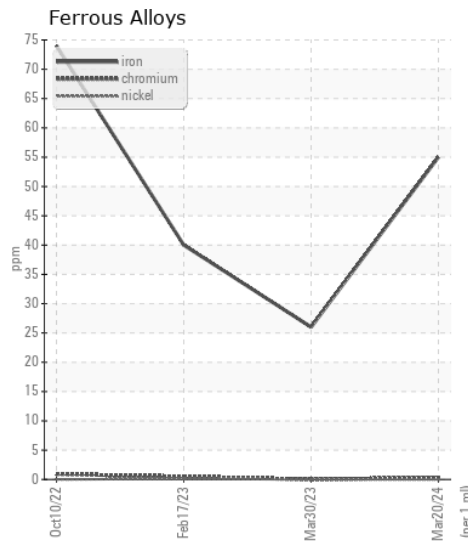
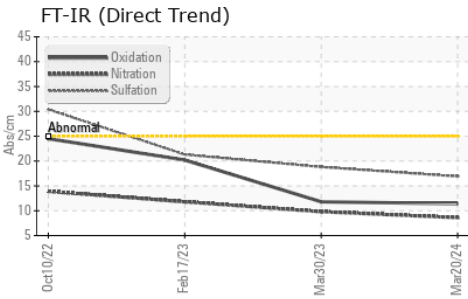
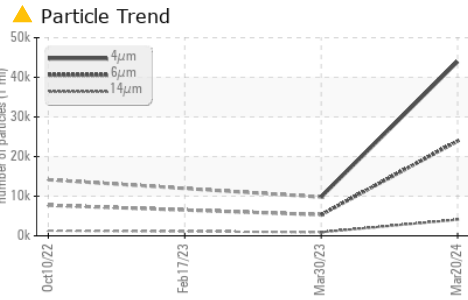
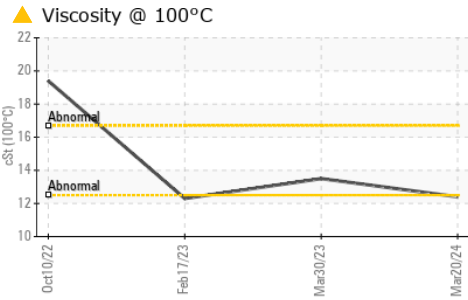
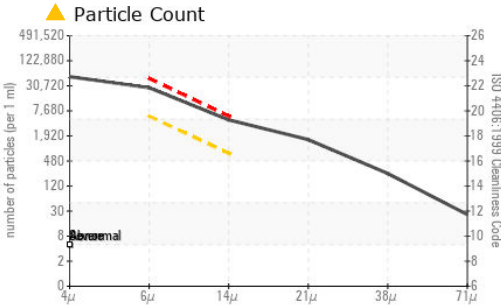
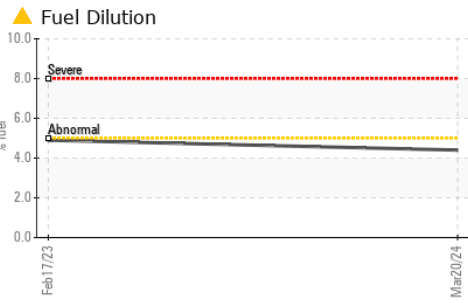
There is a high amount of particulates present in the oil. There is a moderate amount of fuel present in the oil.

Silicon	ppm	ASTM D5185m	>35	6	9	9
Potassium	ppm	ASTM D5185m	>20	<1	2	<1
Fuel	%	ASTM D3524	>5	▲ 4.4	<1.0	▲ 4.9
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.3	0.8	0.3
Nitration	Abs/cm	*ASTM D7624	>20	8.6	9.8	11.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	16.9	18.8	21.3
Particles >4µm		ASTM D7647		43925	9770	---
Particles >6µm		ASTM D7647	>5000	▲ 23928	● 5322	---
Particles >14µm		ASTM D7647	>640	▲ 4072	● 906	---
Particles >21µm		ASTM D7647	>160	▲ 1372	● 305	---
Particles >38µm		ASTM D7647	>40	▲ 212	● 47	---
Particles >71µm		ASTM D7647	>10	▲ 22	5	---
Oil Cleanliness		ISO 4406 (c)	>19/16	▲ 22/19	● 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	>0.2	NEG	NEG	NEG

FLUID CONDITION

Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil.

Sodium	ppm	ASTM D5185m		<1	0	2
Boron	ppm	ASTM D5185m		4	0	0
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		2	2	3
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		14	9	7
Calcium	ppm	ASTM D5185m		2609	3441	3109
Phosphorus	ppm	ASTM D5185m		929	1154	1209
Zinc	ppm	ASTM D5185m		1053	1408	1414
Sulfur	ppm	ASTM D5185m		3751	4259	4084
Oxidation	Abs/.1mm	*ASTM D7414	>25	11.4	11.8	20.2
Base Number (BN)	mg KOH/g	ASTM D2896		7.96	12.33	10.8
Visc @ 100°C	cSt	ASTM D445		▲ 12.4	13.5	▲ 12.3



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KL0014197 **Received** : 18 Apr 2024
Lab Number : 06153297 **Tested** : 23 Apr 2024
Unique Number : 10983375 **Diagnosed** : 23 Apr 2024 - Don Baldrige
Test Package : MOB 2 (Additional Tests: FuelDilution, PercentFuel, PrtCount)

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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