



OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area
GUAY SON [CONHER]
Machine Id
IBACO BM ISMAR II AUX-1
Component
Diesel Engine
Fluid
RALOY 15W40 (8 LTR)

RECOMMENDATION

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		KL0014206	KL0013400	KL0012851
Sample Date		Client Info		20 Mar 2024	14 Nov 2023	20 Sep 2023
Machine Age	hrs	Client Info		0	0	17025
Oil Age	hrs	Client Info		220	200	72
Filter Age	hrs	Client Info		220	200	72
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	ABNORMAL	NORMAL

WEAR

Cylinder, crank, or cam shaft wear is indicated.

Iron	ppm	ASTM D5185m	>100	▲ 133	▲ 108	14
Chromium	ppm	ASTM D5185m	>20	4	2	<1
Nickel	ppm	ASTM D5185m	>4	0	<1	0
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	7	1	3
Lead	ppm	ASTM D5185m	>40	2	1	0
Copper	ppm	ASTM D5185m	>330	20	2	<1
Tin	ppm	ASTM D5185m	>15	3	<1	<1
Vanadium	ppm	ASTM D5185m		<1	0	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

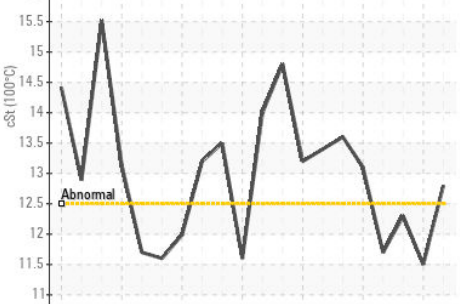
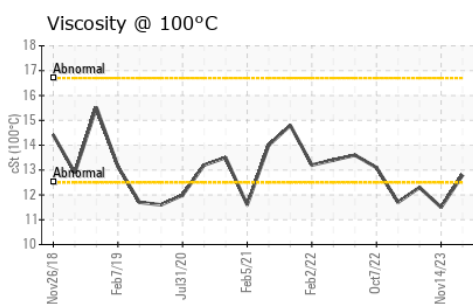
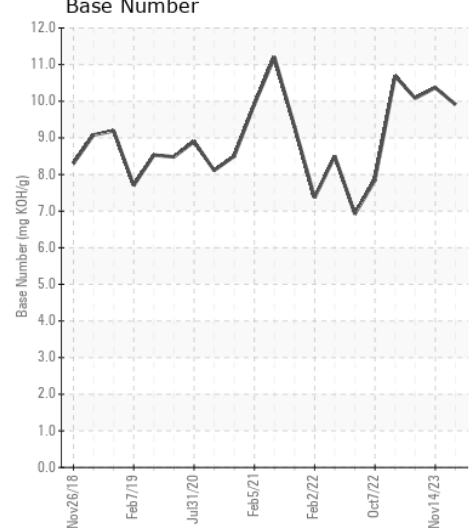
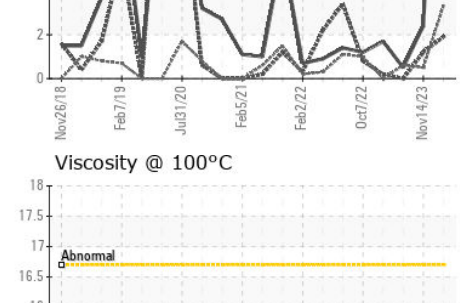
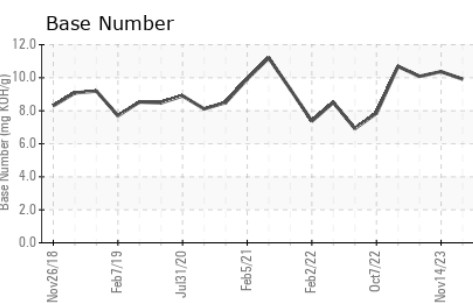
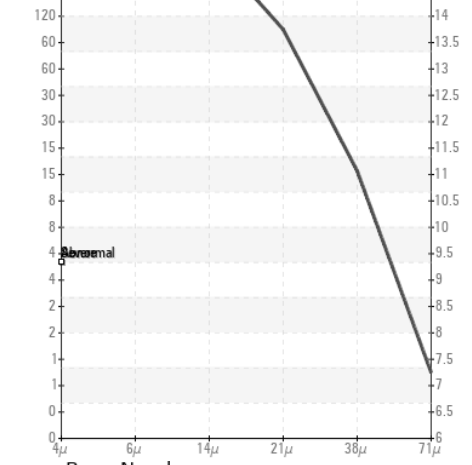
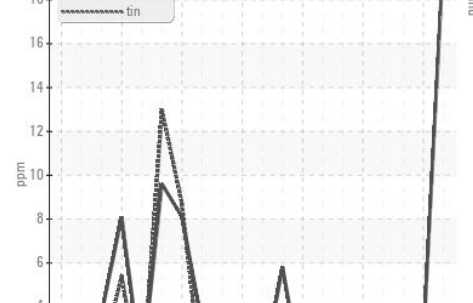
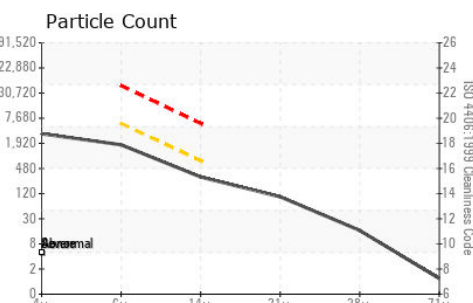
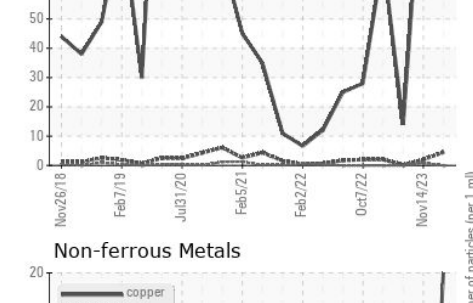
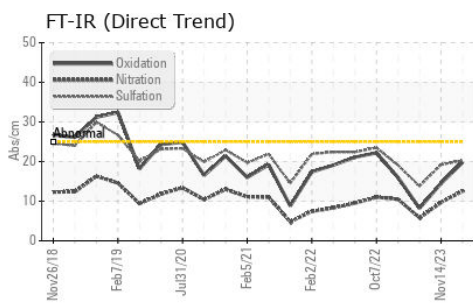
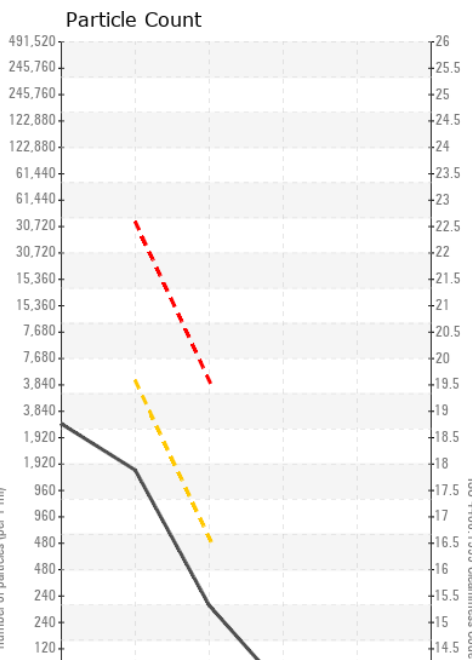
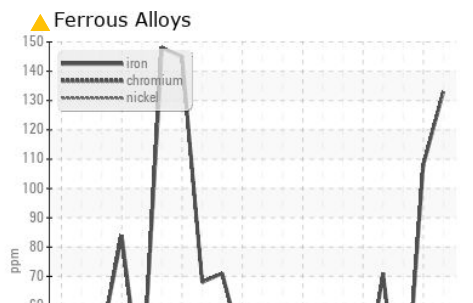
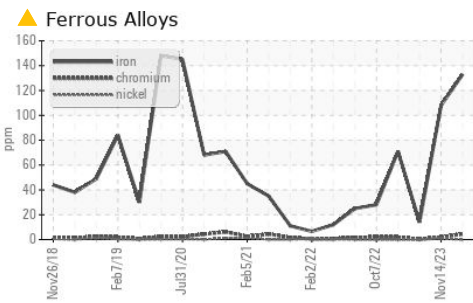
There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable.

Silicon	ppm	ASTM D5185m	>25	18	12	8
Potassium	ppm	ASTM D5185m	>20	2	4	2
Fuel		WC Method	>5	<1.0	▲ 3.3	1.9
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.4	0.6	0.1
Nitration	Abs/cm	*ASTM D7624	>20	12.5	9.7	5.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.3	19.2	13.8
Particles >4µm		ASTM D7647		2845	4315	2680
Particles >6µm		ASTM D7647	>5000	1550	2351	1460
Particles >14µm		ASTM D7647	>640	264	400	248
Particles >21µm		ASTM D7647	>160	89	135	84
Particles >38µm		ASTM D7647	>40	14	21	13
Particles >71µm		ASTM D7647	>10	1	2	1
Oil Cleanliness		ISO 4406 (c)	>19/16	18/15	18/16	18/15
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

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

Sodium	ppm	ASTM D5185m		3	0	<1
Boron	ppm	ASTM D5185m		41	4	0
Barium	ppm	ASTM D5185m		4	<1	0
Molybdenum	ppm	ASTM D5185m		7	2	<1
Manganese	ppm	ASTM D5185m		1	1	<1
Magnesium	ppm	ASTM D5185m		22	11	4
Calcium	ppm	ASTM D5185m		3302	2816	2658
Phosphorus	ppm	ASTM D5185m		983	1038	1106
Zinc	ppm	ASTM D5185m		1148	1306	1356
Sulfur	ppm	ASTM D5185m		2961	3322	3679
Oxidation	Abs/.1mm	*ASTM D7414	>25	19.8	14.5	8.2
Base Number (BN)	mg KOH/g	ASTM D2896		9.91	10.37	10.08
Visc @ 100°C	cSt	ASTM D445		12.8	● 11.5	12.3



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KL0014206 **Received** : 18 Apr 2024
Lab Number : 06153314 **Tested** : 23 Apr 2024
Unique Number : 10983392 **Diagnosed** : 23 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)