



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

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

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. 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		KL0014182	KL0014136	KL0013409
Sample Date		Client Info		20 Mar 2024	06 Feb 2024	14 Nov 2023
Machine Age	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		250	174	200
Filter Age	hrs	Client Info		250	174	200
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	ATTENTION	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>250	42	15	12
Chromium	ppm	ASTM D5185m	>10	1	<1	<1
Nickel	ppm	ASTM D5185m	>5	0	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>35	4	2	2
Lead	ppm	ASTM D5185m	>100	1	<1	2
Copper	ppm	ASTM D5185m	>60	<1	0	<1
Tin	ppm	ASTM D5185m	>5	2	<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

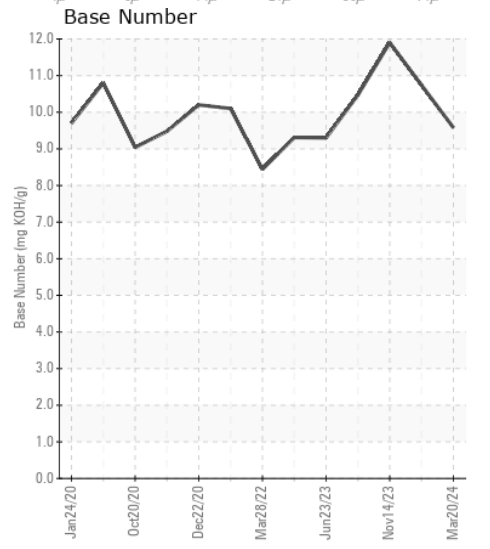
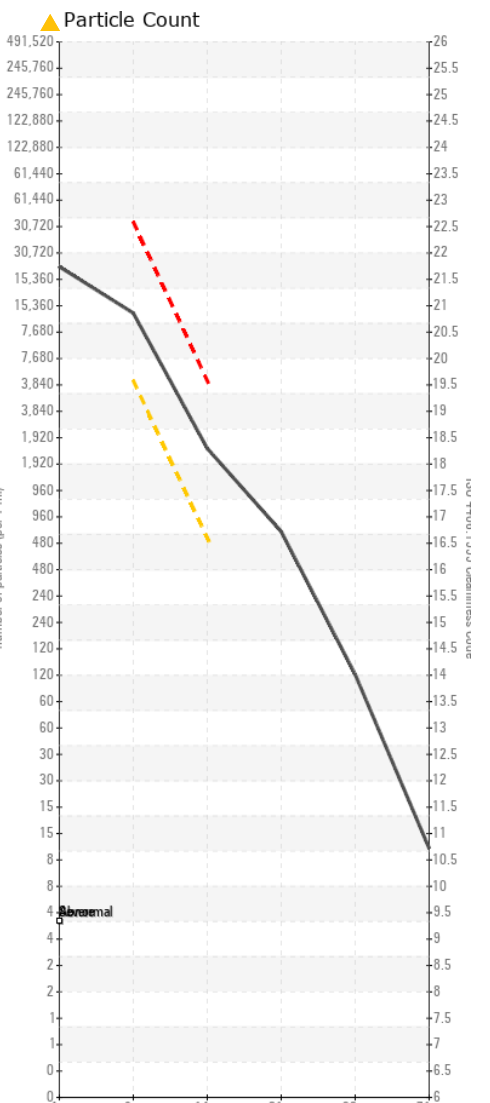
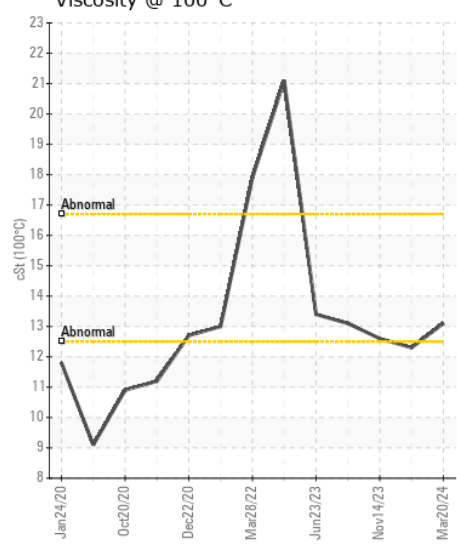
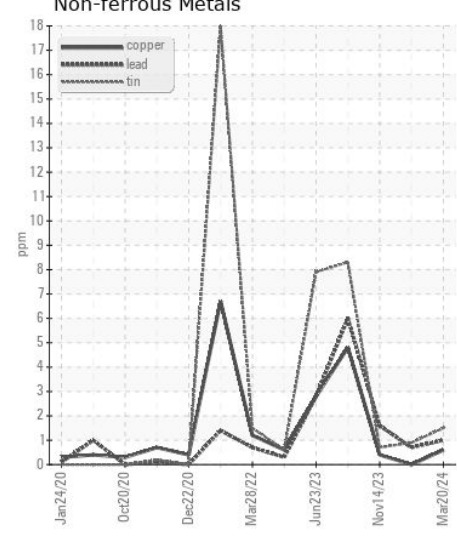
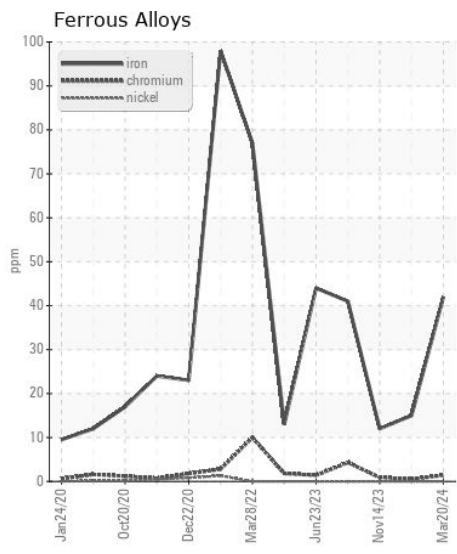
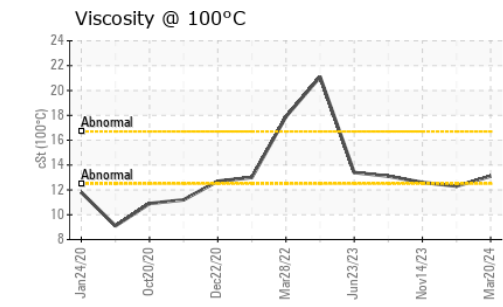
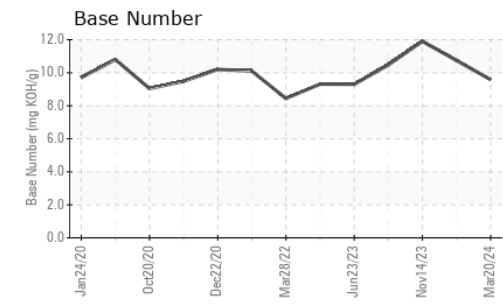
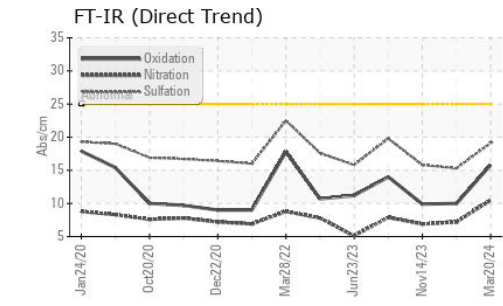
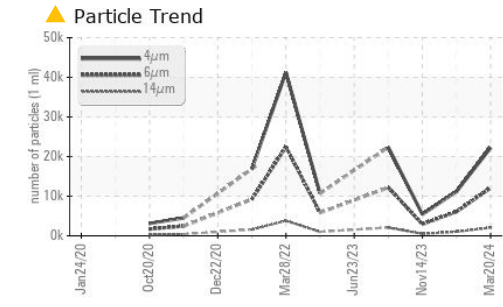
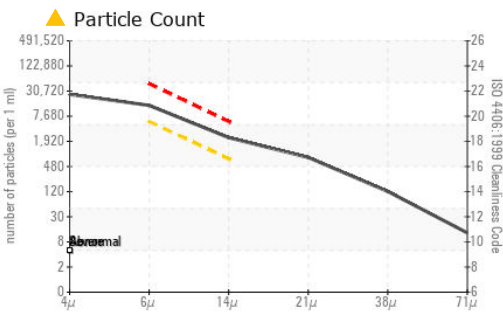
There is a high amount of particulates present in the oil.

Silicon	ppm	ASTM D5185m	>35	9	9	9
Potassium	ppm	ASTM D5185m	>20	<1	2	4
Fuel		WC Method	>5	<1.0	▲ 2.2	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.3	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	10.5	7.2	6.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	19.1	15.3	15.8
Particles >4µm		ASTM D7647		22236	11179	5429
Particles >6µm		ASTM D7647	>5000	▲ 12113	● 6090	2957
Particles >14µm		ASTM D7647	>640	▲ 2062	● 1036	503
Particles >21µm		ASTM D7647	>160	▲ 694	● 349	170
Particles >38µm		ASTM D7647	>40	▲ 107	● 54	26
Particles >71µm		ASTM D7647	>10	▲ 11	● 6	3
Oil Cleanliness		ISO 4406 (c)	>19/16	▲ 21/18	● 20/17	19/16
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		0	0	<1
Boron	ppm	ASTM D5185m		0	0	0
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		0	0	<1
Manganese	ppm	ASTM D5185m		<1	<1	0
Magnesium	ppm	ASTM D5185m		10	6	5
Calcium	ppm	ASTM D5185m		3156	2504	2954
Phosphorus	ppm	ASTM D5185m		1077	1041	1229
Zinc	ppm	ASTM D5185m		1307	1283	1461
Sulfur	ppm	ASTM D5185m		3900	2904	3664
Oxidation	Abs/.1mm	*ASTM D7414	>25	15.8	10.0	9.9
Base Number (BN)	mg KOH/g	ASTM D2896		9.58	10.74	11.90
Visc @ 100°C	cSt	ASTM D445		13.1	▲ 12.3	12.6



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KL0014182 **Received** : 18 Apr 2024
Lab Number : 06153291 **Tested** : 23 Apr 2024
Unique Number : 10983369 **Diagnosed** : 23 Apr 2024 - Don Baldrige
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)