

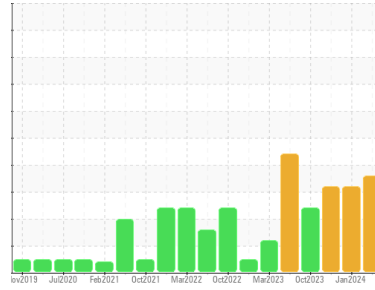


OIL ANALYSIS REPORT



Area
IBACO [CONHER]
Machine Id
BM Luis II
Component
Bottom Diesel Engine
Fluid
RALROY 15W40 (160 LTR)

Sample Rating Trend



GLYCOL



DIAGNOSIS

Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor. (Customer Sample Comment: Fluid: Raloy 15W40)

Wear

All component wear rates are normal.

Contamination

Sodium and/or potassium levels are high. There is a moderate amount of particulates present in the oil. Test for glycol is negative.

Fluid Condition

The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		KL0014521	KL0013469	KL0013417
Sample Date	Client Info		20 Mar 2024	20 Jan 2024	14 Nov 2023
Machine Age	hrs	Client Info	19387	18637	0
Oil Age	hrs	Client Info	371	638	659
Oil Changed	Client Info		Not Chngd	Changed	Changed
Sample Status			ABNORMAL	ABNORMAL	ABNORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Water	WC Method	>0.2	NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m	>100	30	20	25
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	0	1
Titanium	ppm	ASTM D5185m	>2	0	0	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>25	5	2	<1
Lead	ppm	ASTM D5185m	>40	4	1	1
Copper	ppm	ASTM D5185m	>330	15	13	16
Tin	ppm	ASTM D5185m	>15	1	0	<1
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		0	0	<1

ADDITIVES

	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m		0	<1	5
Barium	ppm	ASTM D5185m		0	<1	<1
Molybdenum	ppm	ASTM D5185m		10	6	9
Manganese	ppm	ASTM D5185m		<1	0	<1
Magnesium	ppm	ASTM D5185m		5	5	16
Calcium	ppm	ASTM D5185m		2670	2619	2668
Phosphorus	ppm	ASTM D5185m		1124	1211	1111
Zinc	ppm	ASTM D5185m		1281	1273	1265
Sulfur	ppm	ASTM D5185m		3766	3843	3531

CONTAMINANTS

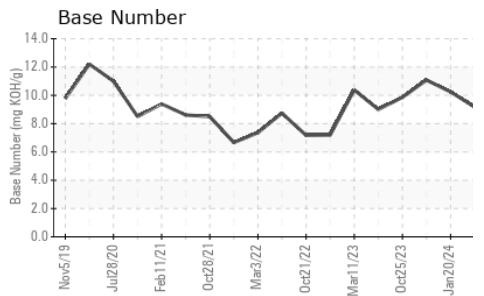
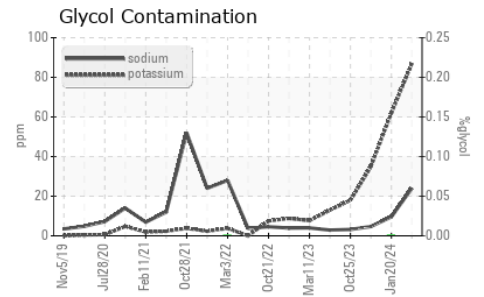
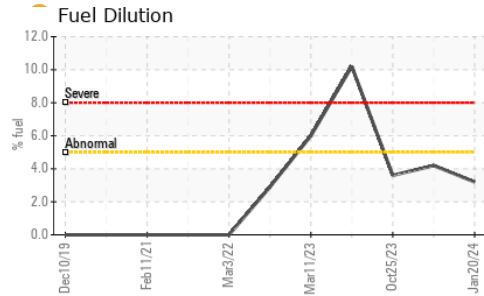
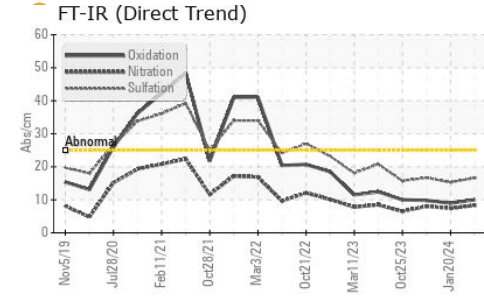
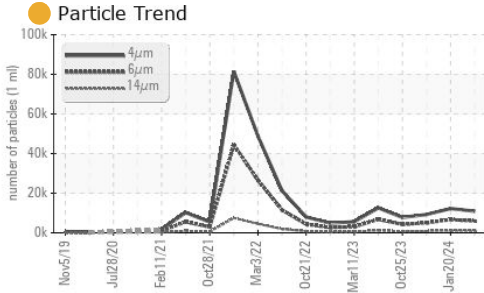
	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m	>25	9	10	9
Sodium	ppm	ASTM D5185m		24	10	5
Potassium	ppm	ASTM D5185m	>20	▲ 87	62	35
Fuel	%	ASTM D3524	>5	<1.0	▲ 3.2	▲ 4.2
Glycol	%	*ASTM D2982		NEG	0.0	NEG

INFRA-RED

	method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844	>3	0.3	0.2	0.3
Nitration	Abs/cm	*ASTM D7624	>20	8.3	7.4	8.0
Sulfation	Abs.1mm	*ASTM D7415	>30	16.6	15.3	16.7



OIL ANALYSIS REPORT



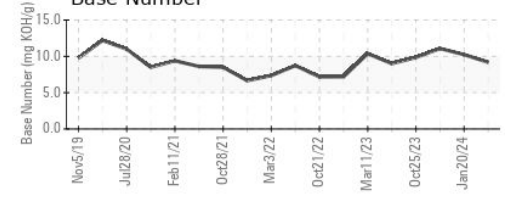
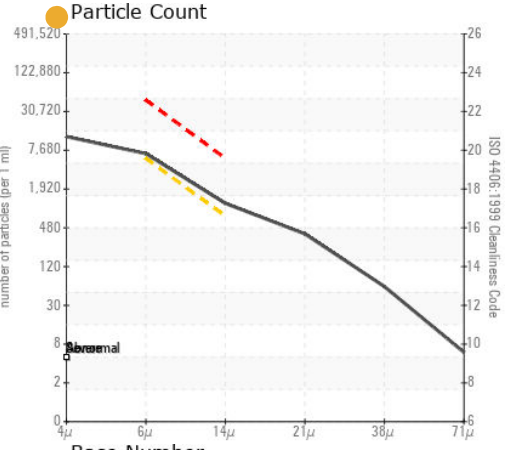
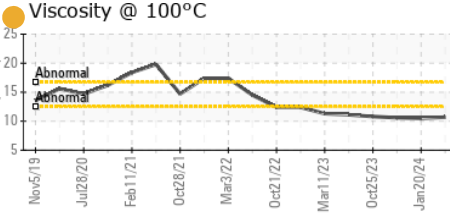
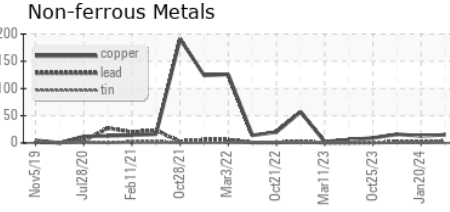
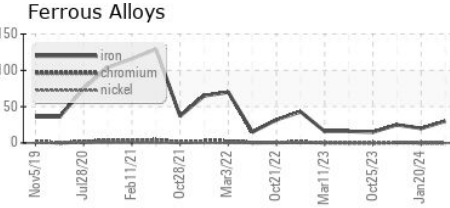
FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647		10883	12266	9230
Particles >6µm	ASTM D7647	>5000	5929	6682	5028
Particles >14µm	ASTM D7647	>640	1009	1137	856
Particles >21µm	ASTM D7647	>160	340	383	288
Particles >38µm	ASTM D7647	>40	52	59	45
Particles >71µm	ASTM D7647	>10	5	6	5
Oil Cleanliness	ISO 4406 (c)	>19/16	20/17	20/17	20/17

FLUID DEGRADATION	method	limit/base	current	history1	history2
Oxidation	Abs./1mm *ASTM D7414	>25	10.0	9.0	9.8
Base Number (BN)	mg KOH/g ASTM D2896		9.18	10.24	11.08

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	>0.2	NEG	NEG	NEG
Free Water	scalar *Visual		NEG	NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt ASTM D445		10.7	10.5	10.6

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KL0014521
Lab Number : 06153299
Unique Number : 10983377
Test Package : MOB 2 (Additional Tests: FuelDilution, Glycol, PercentFuel, PrtCount)

Received : 18 Apr 2024
Tested : 23 Apr 2024
Diagnosed : 23 Apr 2024 - Jonathan Hester
Contact: EDUARDO GARCIA
 egarcia.comsa@gmail.com

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)

T: (526)622-1581 x:81

F: x: