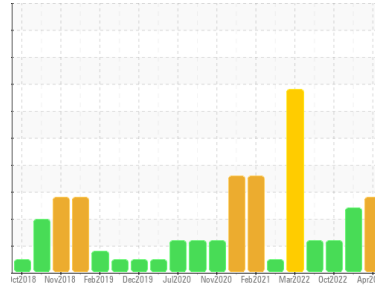




OIL ANALYSIS REPORT

Sample Rating Trend



FUEL



Area
GUAY SON [CONHER]
 Machine Id
BM NAINARI 2602004123-4 - IBACO BM NAINARI
 Component
Diesel Engine
 Fluid
Diesel Engine Oil (160 LTR)

DIAGNOSIS

Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is a moderate amount of particulates present in the oil. Light fuel dilution occurring.

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.

SAMPLE INFORMATION

	method	limit/base	current	history 1	history 2
Sample Number	Client Info		KL0012321	KL0010236	KL0010167
Sample Date	Client Info		05 Apr 2023	22 Feb 2023	07 Oct 2022
Machine Age	hrs	Client Info	18619	18272	16709
Oil Age	hrs	Client Info	347	907	10
Oil Changed	Client Info		Not Chngd	Not Chngd	Not Chngd
Sample Status			ATTENTION	SEVERE	ABNORMAL

CONTAMINATION

	method	limit/base	current	history 1	history 2
Glycol	WC Method		NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history 1	history 2
Iron	ppm	ASTM D5185m >100	6	13	2
Chromium	ppm	ASTM D5185m >20	0	<1	0
Nickel	ppm	ASTM D5185m >4	0	0	0
Titanium	ppm	ASTM D5185m	0	0	0
Silver	ppm	ASTM D5185m >3	0	0	0
Aluminum	ppm	ASTM D5185m >20	<1	1	1
Lead	ppm	ASTM D5185m >40	0	<1	0
Copper	ppm	ASTM D5185m >330	<1	2	<1
Tin	ppm	ASTM D5185m >15	0	<1	0
Vanadium	ppm	ASTM D5185m	0	0	0
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

	method	limit/base	current	history 1	history 2
Boron	ppm	ASTM D5185m	0	0	7
Barium	ppm	ASTM D5185m	0	<1	0
Molybdenum	ppm	ASTM D5185m	3	2	3
Manganese	ppm	ASTM D5185m	<1	<1	<1
Magnesium	ppm	ASTM D5185m	14	4	14
Calcium	ppm	ASTM D5185m	2526	2942	2840
Phosphorus	ppm	ASTM D5185m	966	1190	1146
Zinc	ppm	ASTM D5185m	1208	1407	1340
Sulfur	ppm	ASTM D5185m	4344	4215	5062

CONTAMINANTS

	method	limit/base	current	history 1	history 2
Silicon	ppm	ASTM D5185m >25	3	8	6
Sodium	ppm	ASTM D5185m	0	1	<1
Potassium	ppm	ASTM D5185m >20	2	1	3
Fuel	%	ASTM D3524 >5	▲ 4.2	● 8.4	▲ 5.2

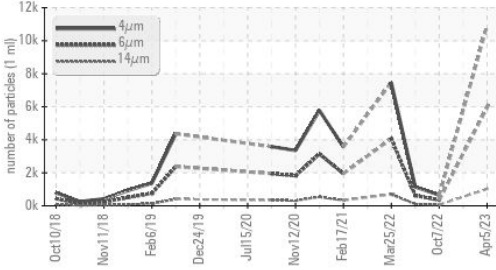
INFRA-RED

	method	limit/base	current	history 1	history 2
Soot %	%	*ASTM D7844 >3	0.1	0.2	0.1
Nitration	Abs/cm	*ASTM D7624 >20	7.3	8.8	4.8
Sulfation	Abs/.1mm	*ASTM D7415 >30	16.4	16.6	13.8

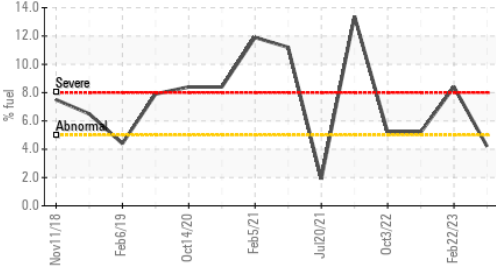


OIL ANALYSIS REPORT

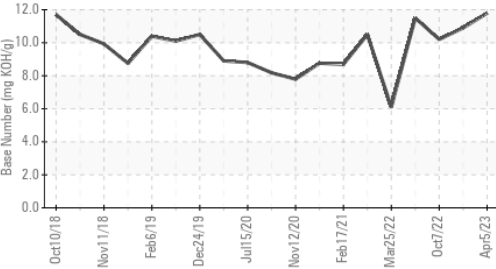
Particle Trend



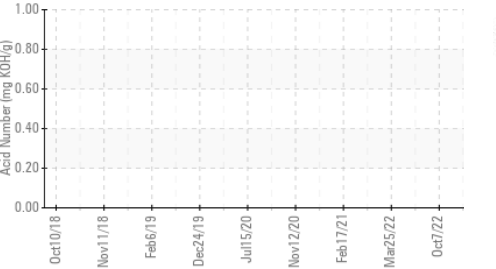
Fuel Dilution



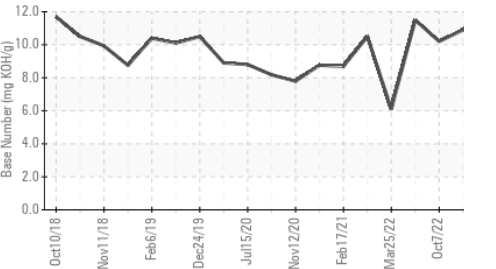
Base Number



Acid Number



Base Number



FLUID CLEANLINESS	method	limit/base	current	history 1	history 2
Particles >4µm	ASTM D7647		10927	---	648
Particles >6µm	ASTM D7647	>5000	▲ 5952	---	353
Particles >14µm	ASTM D7647	>640	▲ 1013	---	60
Particles >21µm	ASTM D7647	>160	▲ 341	---	20
Particles >38µm	ASTM D7647	>40	▲ 53	---	3
Particles >71µm	ASTM D7647	>10	5	---	0
Oil Cleanliness	ISO 4406 (c)	>19/16	▲ 20/17	---	16/13

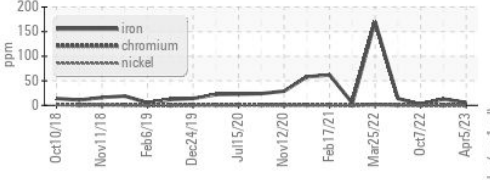
FLUID DEGRADATION	method	limit/base	current	history 1	history 2
Oxidation	Abs/.1mm *ASTM D7414	>25	9.7	9.4	6.3
Acid Number (AN)	mg KOH/g ASTM D8045		0.97	---	---
Base Number (BN)	mg KOH/g ASTM D2896		11.79	10.9	10.2

VISUAL	method	limit/base	current	history 1	history 2
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

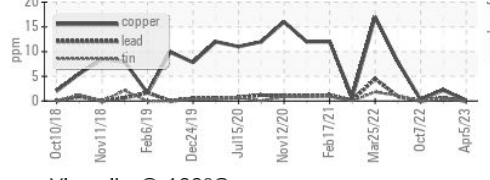
FLUID PROPERTIES	method	limit/base	current	history 1	history 2
Visc @ 100°C	cSt ASTM D445		12.4	▲ 10.1	▲ 12.3

GRAPHS

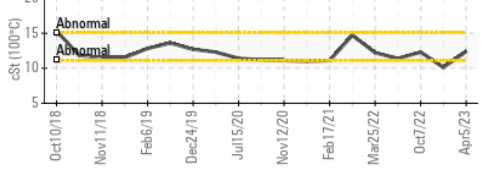
Ferrous Alloys



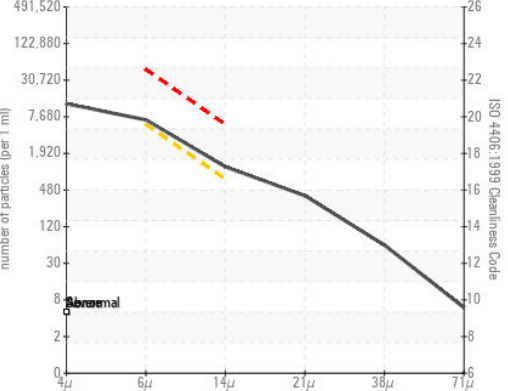
Non-ferrous Metals



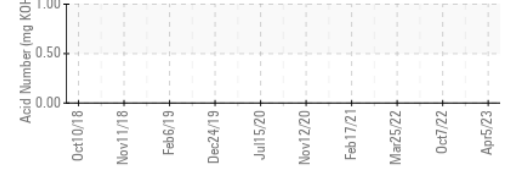
Viscosity @ 100°C



Particle Count



Acid Number



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KL0012321 **Received** : 14 Apr 2023
Lab Number : 05821114 **Diagnosed** : 19 Apr 2023
Unique Number : 10429197 **Diagnostician** : Jonathan Hester
Test Package : MOB 2 (Additional Tests: 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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