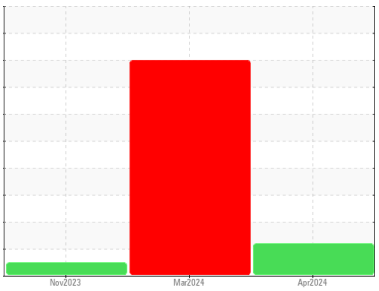
OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL

Machine Id
22402
Component
Diesel Engine
Fluid
{not provided} (--- QTS)

DIAGNOSIS

Recommendation
We advise that you check for possible coolant leak. Check for low coolant level. We recommend an early resample to monitor this condition.

Wear
All component wear rates are normal.

Contamination
Sodium and/or potassium levels remain high.

Fluid Condition
The BN result indicates that there is suitable alkalinity remaining in the oil.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**WC0901344**	WC0901335	WC0832061
Sample Date		Client Info		**22 Apr 2024**	19 Mar 2024	20 Nov 2023
Machine Age	mls	Client Info		**182856**	167265	111920
Oil Age	mls	Client Info		**15000**	50000	50000
Oil Changed		Client Info		**Not Changd**	Changed	Changed
Sample Status				**ABNORMAL**	SEVERE	NORMAL

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	**15**	36	42
Chromium	ppm	ASTM D5185m	>20	**2**	2	3
Nickel	ppm	ASTM D5185m	>4	**0**	0	<1
Titanium	ppm	ASTM D5185m		**0**	0	0
Silver	ppm	ASTM D5185m	>3	**0**	0	<1
Aluminum	ppm	ASTM D5185m	>20	**7**	▲ 25	28
Lead	ppm	ASTM D5185m	>40	**<1**	0	<1
Copper	ppm	ASTM D5185m	>330	**10**	18	50
Tin	ppm	ASTM D5185m	>15	**0**	<1	2
Vanadium	ppm	ASTM D5185m		**0**	<1	0
Cadmium	ppm	ASTM D5185m		**<1**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**12**	61	8
Barium	ppm	ASTM D5185m		**<1**	1	0
Molybdenum	ppm	ASTM D5185m		**277**	960	71
Manganese	ppm	ASTM D5185m		**<1**	1	2
Magnesium	ppm	ASTM D5185m		**681**	256	797
Calcium	ppm	ASTM D5185m		**1189**	672	1271
Phosphorus	ppm	ASTM D5185m		**855**	187	891
Zinc	ppm	ASTM D5185m		**965**	240	1105
Sulfur	ppm	ASTM D5185m		**3613**	2090	2212

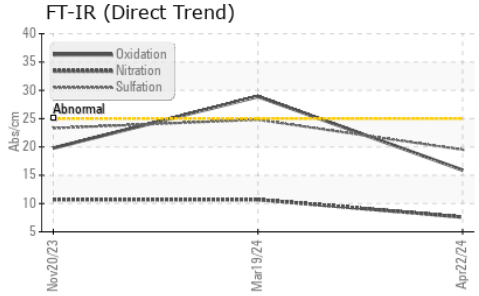
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**7**	15	8
Sodium	ppm	ASTM D5185m		**2**	5	2
Potassium	ppm	ASTM D5185m	>20	▲ **90**	▲ 391	64
Fuel	%	ASTM D3524	>5	**<1.0**	<1.0	1.4
Glycol	%	*ASTM D2982		**NEG**	▲ 0.10	NEG

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**0.6**	1.4	1.3
Nitration	Abs/cm	*ASTM D7624	>20	**7.6**	10.7	10.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	**19.5**	24.8	23.3

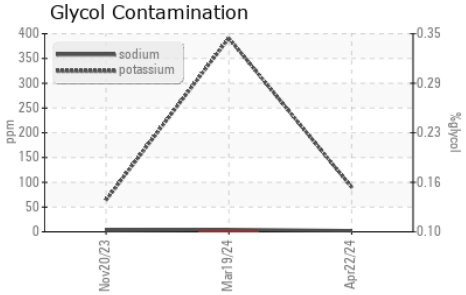
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**15.9**	28.9	19.8
Base Number (BN)	mg KOH/g	ASTM D2896		**7.5**	2.2	6.3

OIL ANALYSIS REPORT

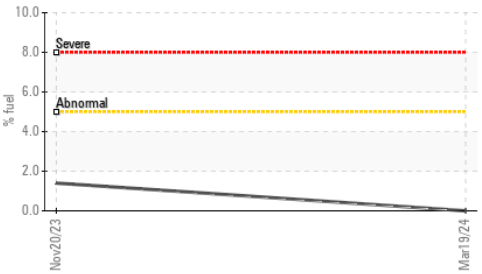
FT-IR (Direct Trend)



Glycol Contamination

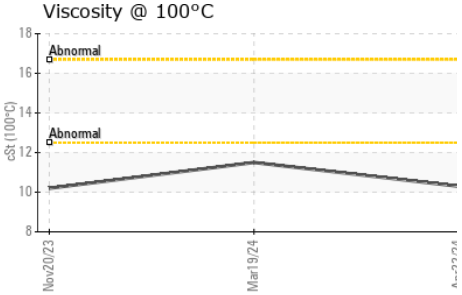


Fuel Dilution



Fuel Dilution

Viscosity @ 100°C

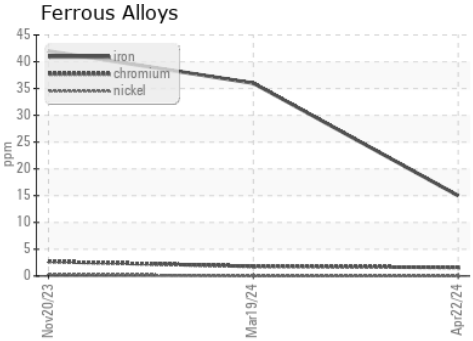


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	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

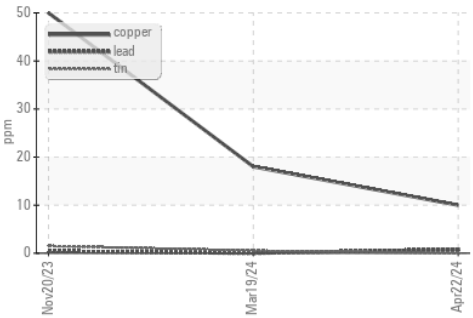
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445		**10.3**	11.5	10.2

GRAPHS

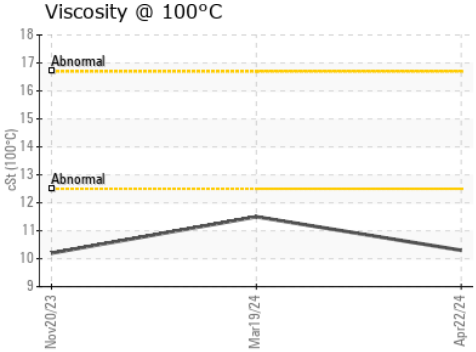
Ferrous Alloys



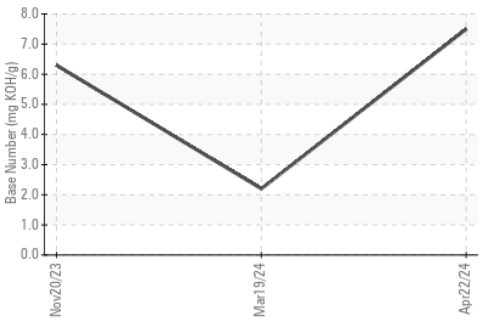
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0901344 **Received** : 13 May 2024
Lab Number : 06176934 **Tested** : 17 May 2024
Unique Number : 11022987 **Diagnosed** : 17 May 2024 - Jonathan Hester
Test Package : FLEET (Additional Tests: FuelDilution)

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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