OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	ABNORMAL

Machine Id
970003
Component
Diesel Engine
Fluid
SHELL ROTELLA T 15W40 (--- QTS)

RECOMMENDATION

We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition. Please specify the component make and model with your next sample.

WEAR

All component wear rates are normal.

CONTAMINATION

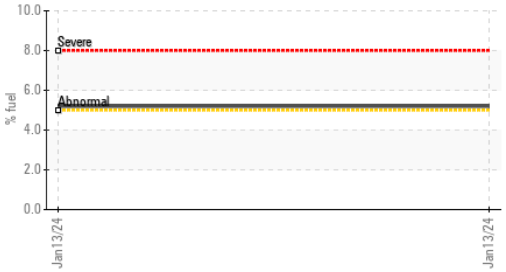
There is a moderate amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

FLUID CONDITION

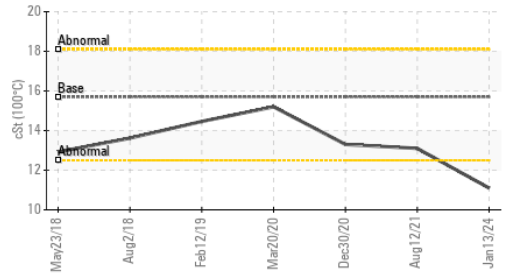
The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		**WC0882320**	WC0478094	WC0478321
Sample Date		Client Info		**13 Jan 2024**	12 Aug 2021	30 Dec 2020
Machine Age	mls	Client Info		**186063**	133013	119927
Oil Age	mls	Client Info		**0**	0	13500
Filter Age	mls	Client Info		**0**	0	13500
Oil Changed		Client Info		**N/A**	Changed	Changed
Filter Changed		Client Info		**N/A**	Changed	Changed
Sample Status				**ABNORMAL**	NORMAL	NORMAL
Iron	ppm	ASTM D5185m	>100	**19**	6	10
Chromium	ppm	ASTM D5185m	>20	**<1**	<1	1
Nickel	ppm	ASTM D5185m	>4	**0**	<1	<1
Titanium	ppm	ASTM D5185m		**<1**	<1	<1
Silver	ppm	ASTM D5185m	>3	**0**	<1	0
Aluminum	ppm	ASTM D5185m	>20	**5**	3	6
Lead	ppm	ASTM D5185m	>40	**0**	<1	<1
Copper	ppm	ASTM D5185m	>330	**3**	3	9
Tin	ppm	ASTM D5185m	>15	**<1**	<1	0
Vanadium	ppm	ASTM D5185m		**0**	0	0
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silicon	ppm	ASTM D5185m	>25	**6**	3	4
Potassium	ppm	ASTM D5185m	>20	**4**	4	0
Fuel	%	ASTM D3524	>5	▲ **5.2**	<1.0	<1.0
Water		WC Method	>0.2	**NEG**	NEG	NEG
Glycol		WC Method		**NEG**	NEG	NEG
Soot %	%	*ASTM D7844	>3	**0.3**	0.3	0.4
Nitration	Abs/cm	*ASTM D7624	>20	**7.7**	6.7	8.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	**21.4**	18.9	21
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
Sodium	ppm	ASTM D5185m		**0**	1	2
Boron	ppm	ASTM D5185m	316	**3**	15	7
Barium	ppm	ASTM D5185m	0.0	**1**	0	0
Molybdenum	ppm	ASTM D5185m	1.2	**64**	59	57
Manganese	ppm	ASTM D5185m		**0**	<1	<1
Magnesium	ppm	ASTM D5185m	24	**885**	883	791
Calcium	ppm	ASTM D5185m	2292	**996**	1153	1397
Phosphorus	ppm	ASTM D5185m	1064	**928**	964	969
Zinc	ppm	ASTM D5185m	1160	**1166**	1151	1151
Sulfur	ppm	ASTM D5185m	4996	**3048**	2757	2473
Oxidation	Abs/.1mm	*ASTM D7414	>25	**19.0**	13.4	15.6
Base Number (BN)	mg KOH/g	ASTM D2896	10.1	**8.2**	9.3	8.6
Visc @ 100°C	cSt	ASTM D445	15.7	▲ **11.1**	13.1	13.3

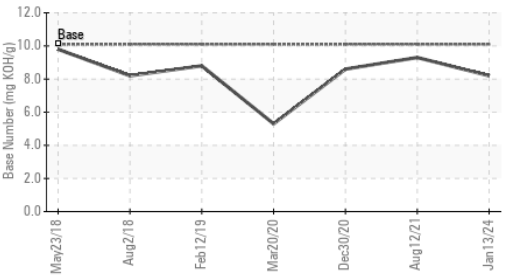
Fuel Dilution



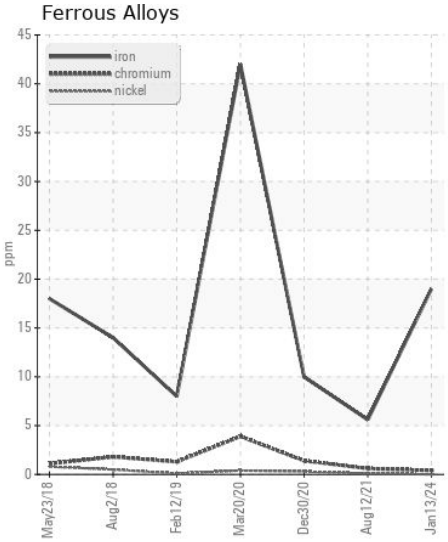
Viscosity @ 100°C



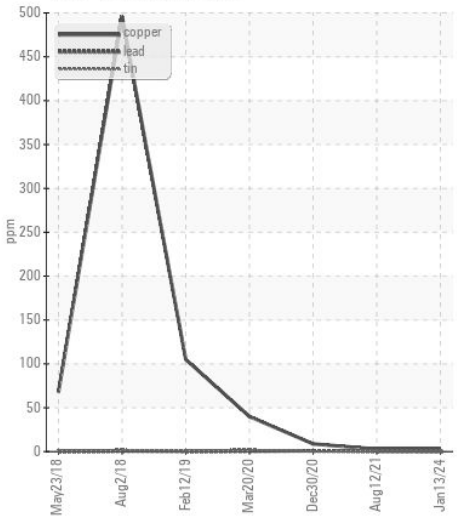
Base Number



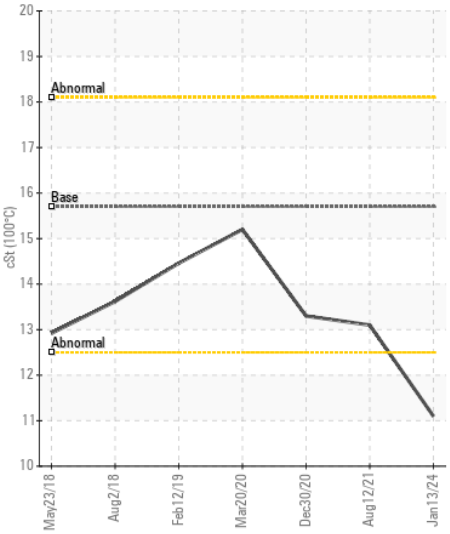
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



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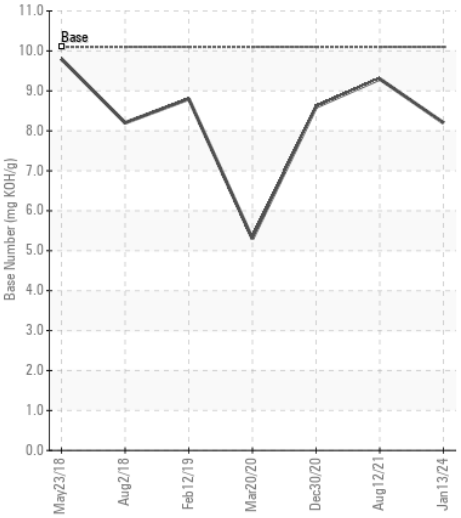

Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0882320 **Recieved** : 01 Feb 2024
Lab Number : 06077551 **Diagnosed** : 05 Feb 2024
Unique Number : 10859642 **Diagnostician** : Wes Davis
Test Package : FLEET (Additional Tests: FuelDilution, PercentFuel)

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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