



WEAR	<b>NORMAL</b>
CONTAMINATION	<b>NORMAL</b>
FLUID CONDITION	<b>NORMAL</b>

Machine Id  
**INTERNATIONAL 108775**  
Component  
**Diesel Engine**  
Fluid  
**SHELL ROTELLA T 15W40 (--- QTS)**

### RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>IL0032929</b>	IL0032964	IL0032755
Sample Date		Client Info		<b>28 Jun 2024</b>	13 Feb 2024	23 Oct 2023
Machine Age	mls	Client Info		<b>364038</b>	342630	322663
Oil Age	mls	Client Info		<b>19806</b>	19967	22520
Filter Age	mls	Client Info		<b>19806</b>	19967	22520
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

### WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>90	<b>37</b>	46	29
Chromium	ppm	ASTM D5185m	>20	<b>1</b>	1	<1
Nickel	ppm	ASTM D5185m	>2	<b>0</b>	0	<1
Titanium	ppm	ASTM D5185m	>2	<b>&lt;1</b>	0	<1
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>20	<b>5</b>	7	8
Lead	ppm	ASTM D5185m	>40	<b>0</b>	0	0
Copper	ppm	ASTM D5185m	>330	<b>4</b>	1	2
Tin	ppm	ASTM D5185m	>15	<b>0</b>	0	<1
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

### CONTAMINATION

There is no indication of any contamination in the oil.

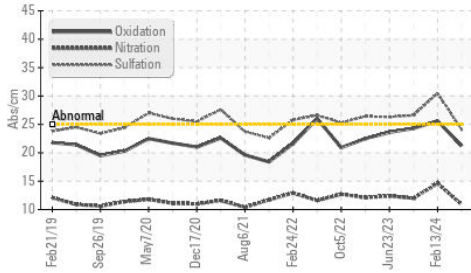
Silicon	ppm	ASTM D5185m	>25	<b>6</b>	9	8
Potassium	ppm	ASTM D5185m	>20	<b>10</b>	8	9
Fuel		WC Method	>3.0	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>6	<b>0.4</b>	2.9	0.9
Nitration	Abs/cm	*ASTM D7624	>20	<b>10.9</b>	14.6	12.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>24.1</b>	30.5	26.6
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	<b>NEG</b>	NEG	NEG

### FLUID CONDITION

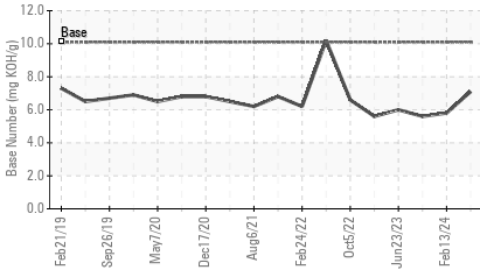
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<b>19</b>	0	10
Boron	ppm	ASTM D5185m	316	<b>57</b>	48	49
Barium	ppm	ASTM D5185m	0.0	<b>0</b>	<1	20
Molybdenum	ppm	ASTM D5185m	1.2	<b>22</b>	24	29
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1
Magnesium	ppm	ASTM D5185m	24	<b>248</b>	215	209
Calcium	ppm	ASTM D5185m	2292	<b>2220</b>	1356	1971
Phosphorus	ppm	ASTM D5185m	1064	<b>1063</b>	736	986
Zinc	ppm	ASTM D5185m	1160	<b>1385</b>	890	1195
Sulfur	ppm	ASTM D5185m	4996	<b>3934</b>	2291	3991
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>21.2</b>	25.6	24.3
Base Number (BN)	mg KOH/g	ASTM D2896	10.1	<b>7.1</b>	5.8	5.6
Visc @ 100°C	cSt	ASTM D445	15.7	<b>14.2</b>	14.5	14.7

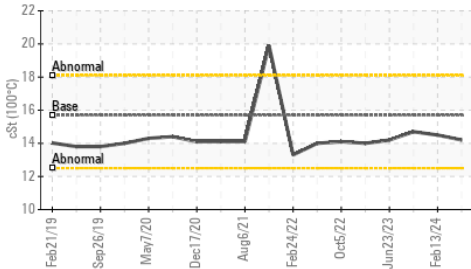
FT-IR (Direct Trend)



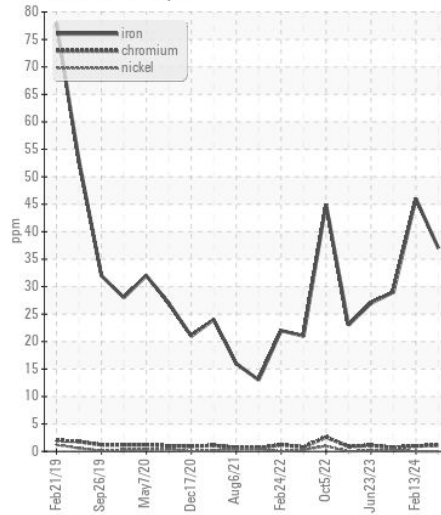
Base Number



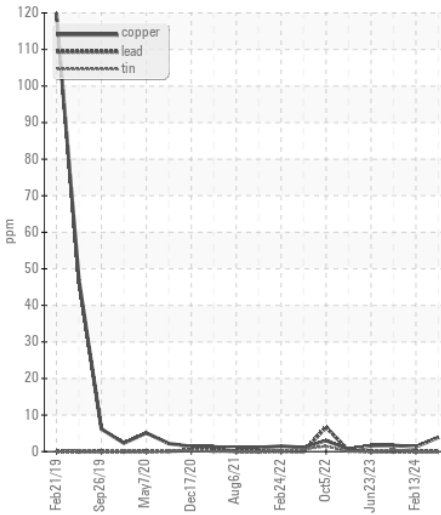
Viscosity @ 100°C



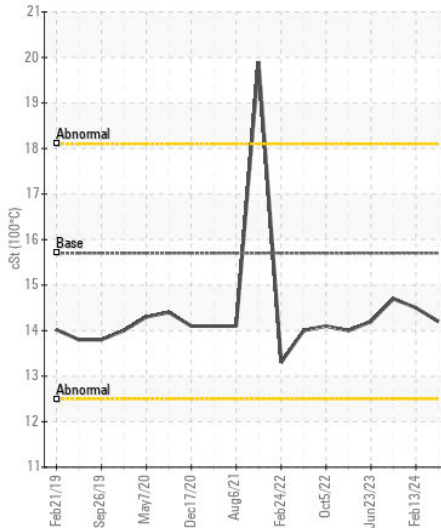
Ferrous Alloys



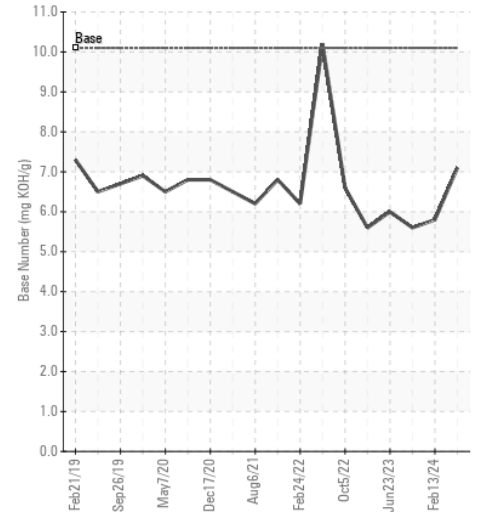
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : IL0032929

Lab Number : 06225871

Unique Number : 11109364

Test Package : FLEET

Received : 02 Jul 2024

Tested : 03 Jul 2024

Diagnosed : 03 Jul 2024 - Angela Borella

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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)