



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	ATTENTION

Machine Id  
**8117465**  
Component  
**Diesel Engine**  
Fluid  
**VALVOLINE 15W40 (--- GAL)**

### RECOMMENDATION

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>IL0035062</b>	IL05952599	IL05832377
Sample Date		Client Info		<b>03 Feb 2024</b>	29 Jul 2023	18 Apr 2023
Machine Age	mls	Client Info		<b>202880</b>	181911	159269
Oil Age	mls	Client Info		<b>0</b>	40000	0
Filter Age	mls	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>Changed</b>	N/A	N/A
Filter Changed		Client Info		<b>Changed</b>	N/A	N/A
Sample Status				<b>ATTENTION</b>	NORMAL	NORMAL

### WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>16</b>	35	36
Chromium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	1	2
Nickel	ppm	ASTM D5185m	>4	<b>0</b>	<1	<1
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
Silver	ppm	ASTM D5185m	>3	<b>&lt;1</b>	0	0
Aluminum	ppm	ASTM D5185m	>20	<b>2</b>	4	5
Lead	ppm	ASTM D5185m	>40	<b>5</b>	<1	4
Copper	ppm	ASTM D5185m	>330	<b>2</b>	3	2
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</b>	<1	<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

Fuel content negligible. There is no indication of any contamination in the oil.

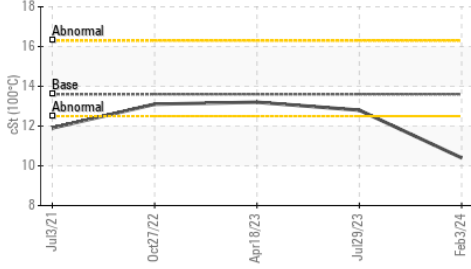
Silicon	ppm	ASTM D5185m	>25	<b>6</b>	10	6
Potassium	ppm	ASTM D5185m	>20	<b>5</b>	8	8
Fuel	%	ASTM D3524	>5	<b>1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.4</b>	0.6	0.7
Nitration	Abs/cm	*ASTM D7624	>20	<b>8.6</b>	12.8	12.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>21.2</b>	23.8	26.0
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

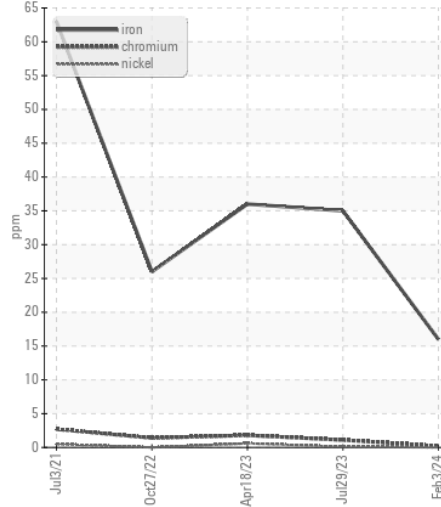
The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

Sodium	ppm	ASTM D5185m		<b>0</b>	4	3
Boron	ppm	ASTM D5185m	39	<b>53</b>	42	18
Barium	ppm	ASTM D5185m	1	<b>25</b>	0	0
Molybdenum	ppm	ASTM D5185m	49	<b>105</b>	66	70
Manganese	ppm	ASTM D5185m	1	<b>0</b>	<1	1
Magnesium	ppm	ASTM D5185m	616	<b>504</b>	726	851
Calcium	ppm	ASTM D5185m	1554	<b>1212</b>	1367	1388
Phosphorus	ppm	ASTM D5185m	899	<b>804</b>	730	766
Zinc	ppm	ASTM D5185m	1069	<b>923</b>	996	1036
Sulfur	ppm	ASTM D5185m	2624	<b>2480</b>	3093	2672
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>15.6</b>	22.6	26.0
Base Number (BN)	mg KOH/g	ASTM D2896	6.9	<b>4.8</b>	6.0	4.3
Visc @ 100°C	cSt	ASTM D445	13.6	<b>▲ 10.4</b>	12.8	13.2

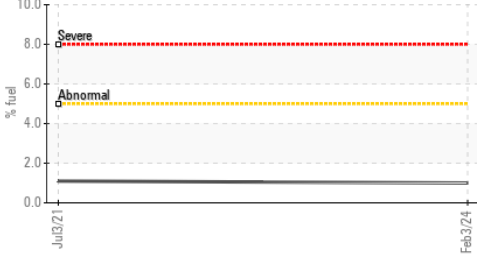
▲ Viscosity @ 100°C



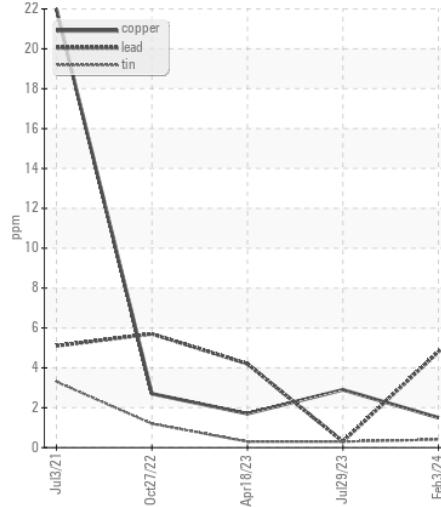
Ferrous Alloys



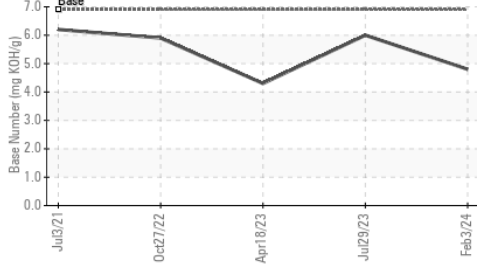
Fuel Dilution



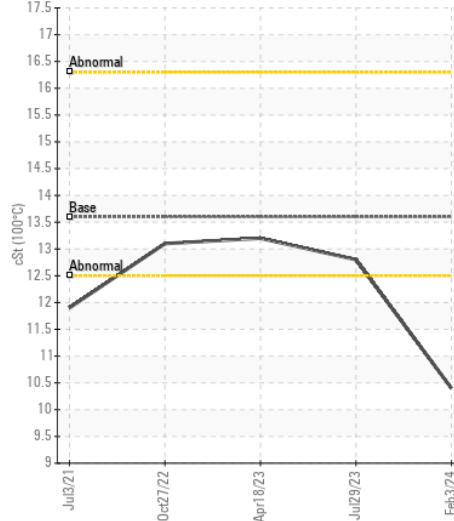
Non-ferrous Metals



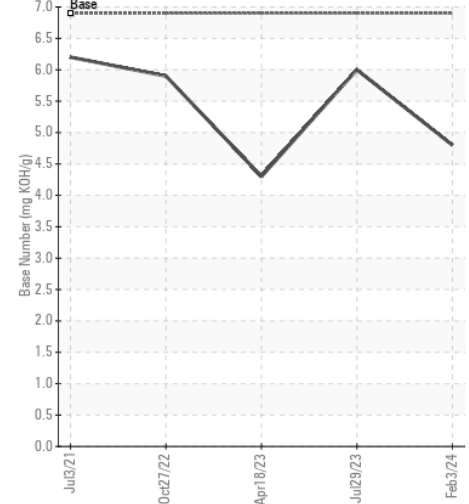
Base Number



▲ Viscosity @ 100°C



Base Number



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : IL0035062 **Received** : 09 Feb 2024  
**Lab Number** : 06084576 **Tested** : 13 Feb 2024  
**Unique Number** : 10872021 **Diagnosed** : 13 Feb 2024 - Jonathan Hester  
**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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