



# OIL ANALYSIS REPORT

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

Machine Id  
**DFGS104339**  
 Component  
**Diesel Engine**  
 Fluid  
**DIESEL ENGINE OIL SAE 15W40 (--- GAL)**

## RECOMMENDATION

Check for low coolant level. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>WC0911097</b>	WC0779421	WC0614771
Sample Date		Client Info		<b>04 Apr 2024</b>	21 Feb 2023	29 Oct 2021
Machine Age	hrs	Client Info		<b>16998</b>	15474	14051
Oil Age	hrs	Client Info		<b>0</b>	0	14051
Filter Age	hrs	Client Info		<b>0</b>	0	14051
Oil Changed		Client Info		<b>N/A</b>	N/A	Changed
Filter Changed		Client Info		<b>N/A</b>	N/A	Changed
Sample Status				<b>ATTENTION</b>	NORMAL	NORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>32</b>	15	16
Chromium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>4	<b>0</b>	<1	0
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Silver	ppm	ASTM D5185m	>3	<b>&lt;1</b>	0	0
Aluminum	ppm	ASTM D5185m	>20	<b>15</b>	11	10
Lead	ppm	ASTM D5185m	>40	<b>&lt;1</b>	0	4
Copper	ppm	ASTM D5185m	>330	<b>3</b>	2	1
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</b>	<1	0
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

Sodium and/or potassium levels are high. Test for glycol is negative.

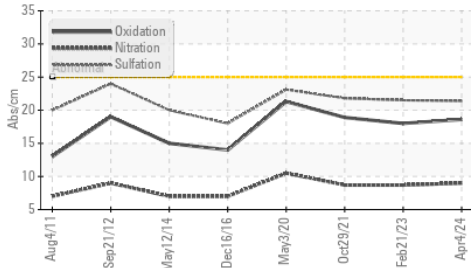
Silicon	ppm	ASTM D5185m	>25	<b>14</b>	5	6
Potassium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	2	8
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol	%	*ASTM D2982		<b>NEG</b>	NEG	0.0
Soot %	%	*ASTM D7844	>3	<b>0.1</b>	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	<b>9.0</b>	8.7	8.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>21.4</b>	21.5	21.8
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

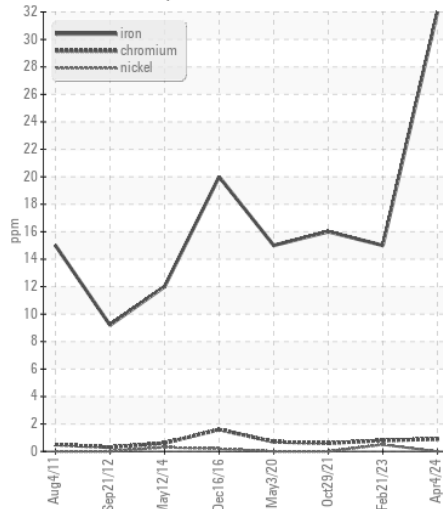
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>158	<b>158</b>	42	86
Boron	ppm	ASTM D5185m	250	<b>329</b>	398	326
Barium	ppm	ASTM D5185m	10	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	100	<b>84</b>	85	115
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m	450	<b>461</b>	405	602
Calcium	ppm	ASTM D5185m	3000	<b>1828</b>	1541	1758
Phosphorus	ppm	ASTM D5185m	1150	<b>1078</b>	1045	867
Zinc	ppm	ASTM D5185m	1350	<b>1309</b>	1348	990
Sulfur	ppm	ASTM D5185m	4250	<b>3831</b>	4214	3157
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>18.6</b>	18.0	18.9
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	<b>7.4</b>	7.5	8.3
Visc @ 100°C	cSt	ASTM D445	14.4	<b>13.5</b>	13.4	13.8

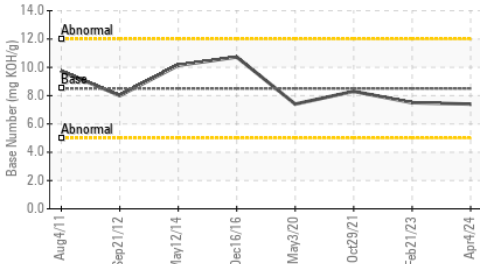
**FT-IR (Direct Trend)**



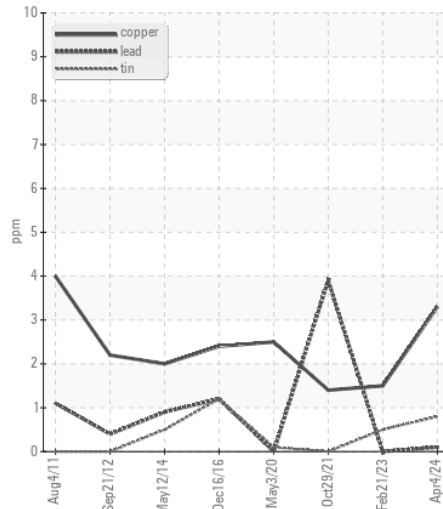
**Ferrous Alloys**



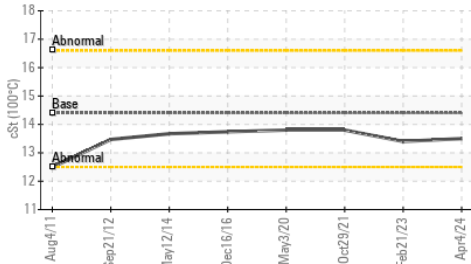
**Base Number**



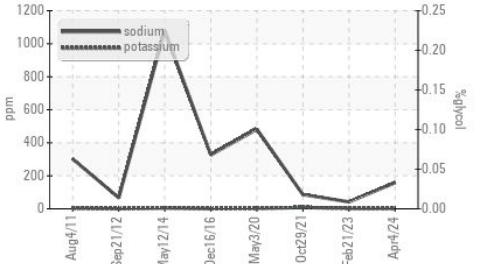
**Non-ferrous Metals**



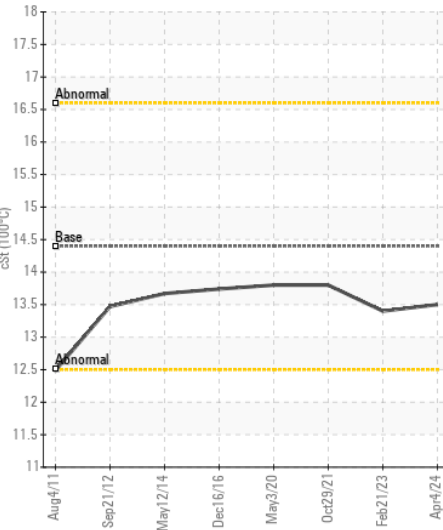
**Viscosity @ 100°C**



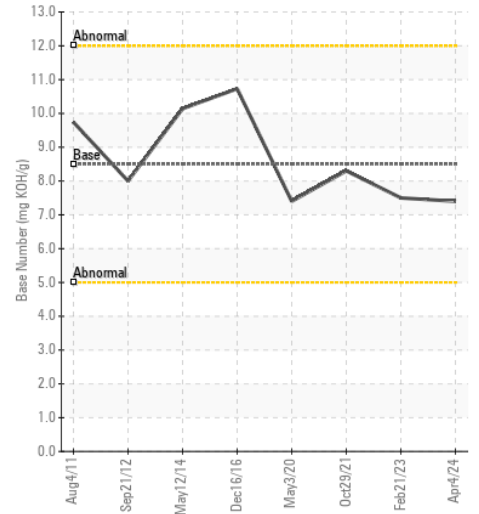
**Glycol Contamination**



**Viscosity @ 100°C**



**Base Number**



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0911097 **Received** : 22 May 2024  
**Lab Number** : 06188395 **Tested** : 28 May 2024  
**Unique Number** : 11045147 **Diagnosed** : 28 May 2024 - Sean Felton  
**Test Package** : FLEET ( Additional Tests: Glycol )

**DOLE FRESH FRUIT**  
 PO BOX 725, ATTN: MAINTENANCE AND REPAIR  
 NEW CASTLE, DE  
 US 19720  
 Contact: LUIS LAPIERRE  
 luis.lapierre@dole.com  
 T: (302)652-6344  
 F: (302)652-6061

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)