



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area
BROWN DONYALE TLD O/O [3akjgld51gshh8254]

Machine Id
FREIGHTLINER 3016254

Component
Diesel Engine

Fluid
CHEVRON DELO 400 MULTIGRADE 15W40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		NL0002178	NL0000683	---
Sample Date		Client Info		18 Jun 2024	10 Jun 2022	---
Machine Age	mls	Client Info		270159	143141	---
Oil Age	mls	Client Info		0	0	---
Filter Age	mls	Client Info		0	0	---
Oil Changed		Client Info		N/A	Changed	---
Filter Changed		Client Info		N/A	Changed	---
Sample Status				NORMAL	NORMAL	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>80	35	25	---
Chromium	ppm	ASTM D5185m	>5	3	2	---
Nickel	ppm	ASTM D5185m	>2	2	1	---
Titanium	ppm	ASTM D5185m		<1	<1	---
Silver	ppm	ASTM D5185m	>3	<1	<1	---
Aluminum	ppm	ASTM D5185m	>30	11	8	---
Lead	ppm	ASTM D5185m	>30	<1	<1	---
Copper	ppm	ASTM D5185m	>150	10	10	---
Tin	ppm	ASTM D5185m	>5	<1	1	---
Vanadium	ppm	ASTM D5185m		<1	0	---
White Metal	scalar	*Visual	NONE	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	---

CONTAMINATION

There is no indication of any contamination in the oil.

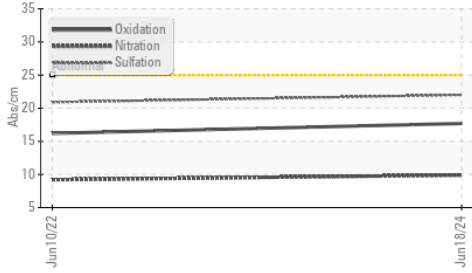
Silicon	ppm	ASTM D5185m	>20	10	4	---
Potassium	ppm	ASTM D5185m	>20	2	0	---
Fuel		WC Method	>5	<1.0	<1.0	---
Water		WC Method	>0.2	NEG	NEG	---
Glycol		WC Method		NEG	NEG	---
Soot %	%	*ASTM D7844	>3	1	0.6	---
Nitration	Abs/cm	*ASTM D7624	>20	9.9	9.2	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	22.0	20.9	---
Silt	scalar	*Visual	NONE	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	---
Appearance	scalar	*Visual	NORML	NORML	NORML	---
Odor	scalar	*Visual	NORML	NORML	NORML	---
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	---

FLUID CONDITION

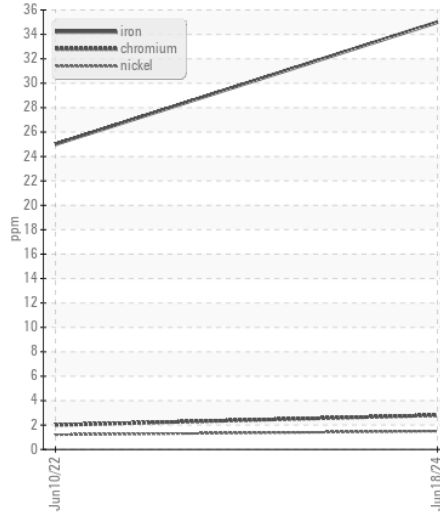
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<1	<1	---
Boron	ppm	ASTM D5185m		12	6	---
Barium	ppm	ASTM D5185m		0	0	---
Molybdenum	ppm	ASTM D5185m		71	57	---
Manganese	ppm	ASTM D5185m		<1	<1	---
Magnesium	ppm	ASTM D5185m		907	866	---
Calcium	ppm	ASTM D5185m		1172	1129	---
Phosphorus	ppm	ASTM D5185m	1360	948	909	---
Zinc	ppm	ASTM D5185m	1480	1284	1154	---
Sulfur	ppm	ASTM D5185m		2391	3217	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	17.7	16.2	---
Base Number (BN)	mg KOH/g	ASTM D2896	12.2	7.2	8.9	---
Visc @ 100°C	cSt	ASTM D445	15.1	14.2	13.9	---

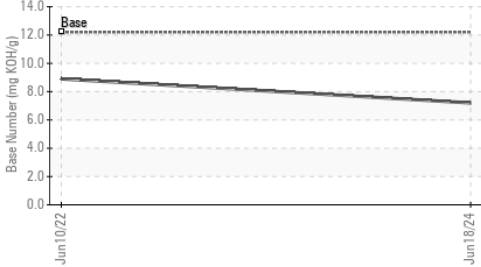
FT-IR (Direct Trend)



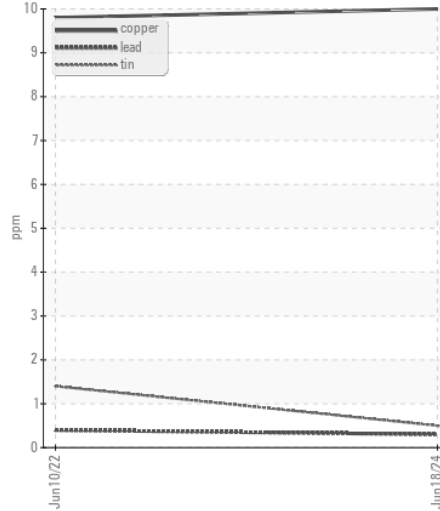
Ferrous Alloys



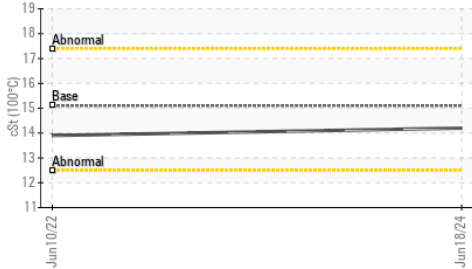
Base Number



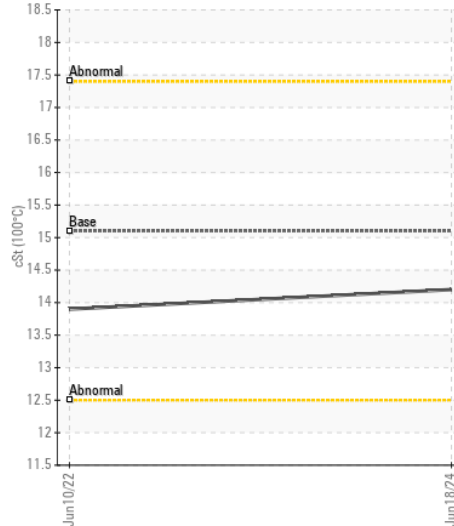
Non-ferrous Metals



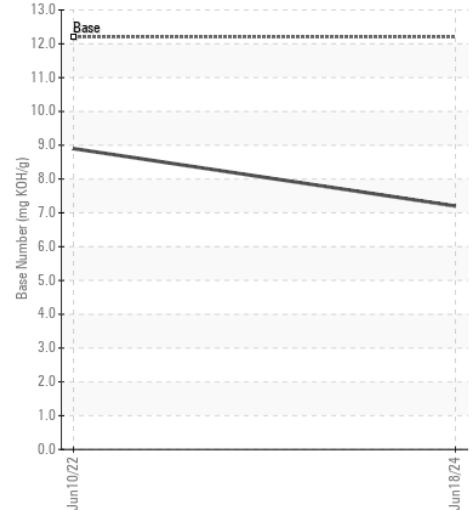
Viscosity @ 100°C



Viscosity @ 100°C



Base Number



Certificate L2367

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

Sample No. : NL0002178

Lab Number : 06216491

Unique Number : 11089355

Test Package : FLEET

Received : 20 Jun 2024

Tested : 22 Jun 2024

Diagnosed : 23 Jun 2024 - Don Baldrige

KIRK NATIONALEASE - SHOP 51

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US 29405

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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)