



McCLUNG-LOGAN
EQUIPMENT COMPANY, INC.

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
VOLVO A45G 342398
Component
Diesel Engine
Fluid
VOLVO VDS-4.5 Premium Motor Oil 15W40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		ML0002692	ML0001507	VCP297375
Sample Date		Client Info		28 Jun 2024	15 Apr 2024	25 Nov 2020
Machine Age	hrs	Client Info		7961	7441	3010
Oil Age	hrs	Client Info		520	500	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	4	5	6
Chromium	ppm	ASTM D5185m	>20	0	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	3	<1
Titanium	ppm	ASTM D5185m		0	<1	<1
Silver	ppm	ASTM D5185m	>2	0	<1	0
Aluminum	ppm	ASTM D5185m	>25	1	5	2
Lead	ppm	ASTM D5185m	>40	0	<1	3
Copper	ppm	ASTM D5185m	>330	0	<1	2
Tin	ppm	ASTM D5185m	>15	0	<1	0
Vanadium	ppm	ASTM D5185m		0	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

There is no indication of any contamination in the oil.

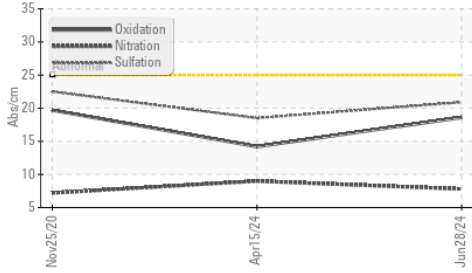
Silicon	ppm	ASTM D5185m	>25	3	6	5
Potassium	ppm	ASTM D5185m	>20	<1	3	0
Fuel		WC Method	>6.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.2	0.2	0.2
Nitration	Abs/cm	*ASTM D7624	>20	7.8	9.0	7.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.9	18.5	22.5
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

FLUID CONDITION

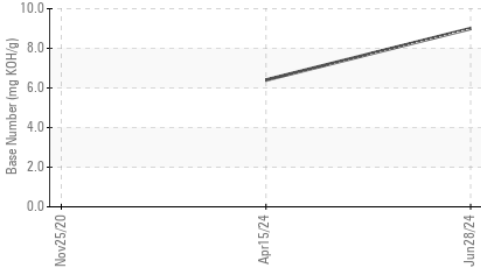
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		3	6	2
Boron	ppm	ASTM D5185m		37	74	34
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		46	122	39
Manganese	ppm	ASTM D5185m		<1	0	<1
Magnesium	ppm	ASTM D5185m		529	121	518
Calcium	ppm	ASTM D5185m		1695	2945	1579
Phosphorus	ppm	ASTM D5185m		938	1472	868
Zinc	ppm	ASTM D5185m		1095	1674	1037
Sulfur	ppm	ASTM D5185m		3276	5490	2197
Oxidation	Abs/.1mm	*ASTM D7414	>25	18.6	14.2	19.7
Base Number (BN)	mg KOH/g	ASTM D2896		9.0	6.4	---
Visc @ 100°C	cSt	ASTM D445		12.8	13.0	12.0

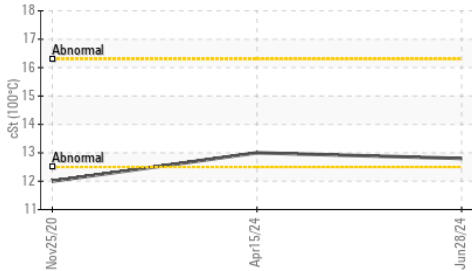
FT-IR (Direct Trend)



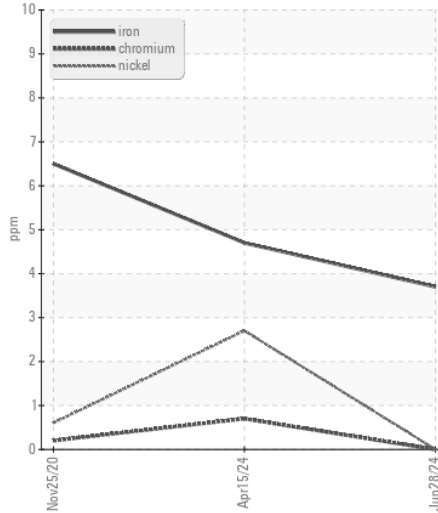
Base Number



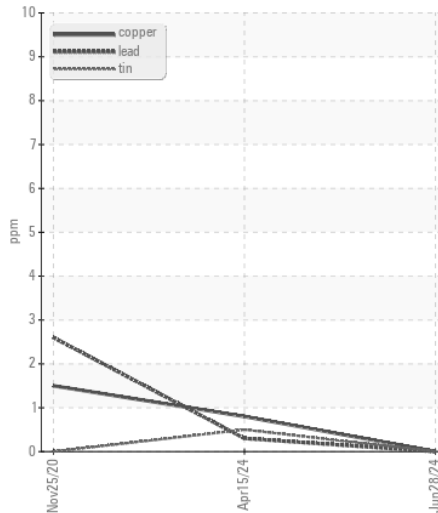
Viscosity @ 100°C



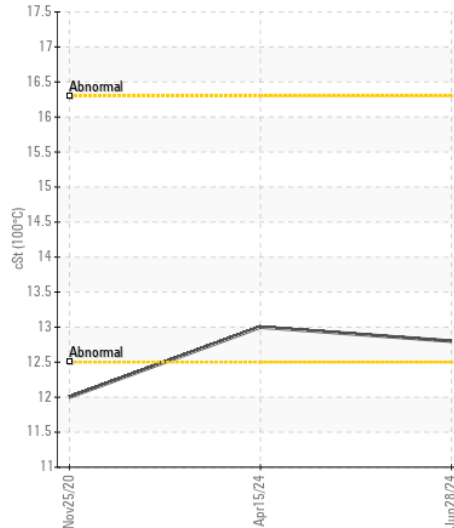
Ferrous Alloys



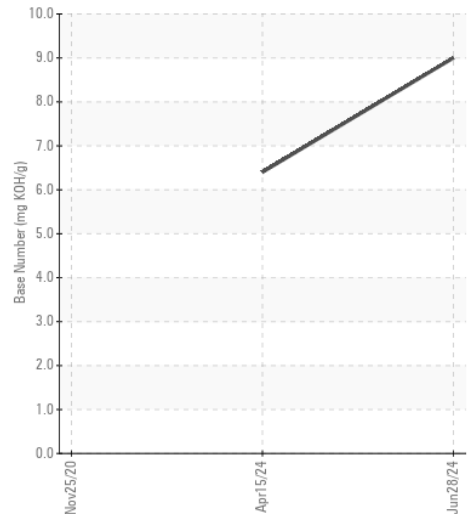
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : ML0002692 **Received** : 05 Jul 2024
Lab Number : 06229407 **Tested** : 09 Jul 2024
Unique Number : 11112900 **Diagnosed** : 09 Jul 2024 - Jonathan Hester
Test Package : CONST (Additional Tests: TBN)

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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)