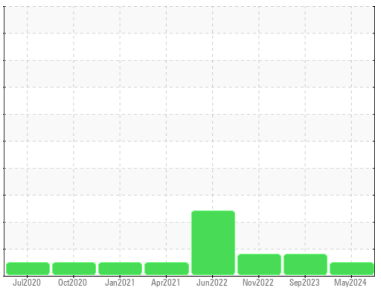
McCLUNG LOGAN EQUIPMENT COMPANY

OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL

Machine Id
VOLVO A45G 342399
Component
Diesel Engine
Fluid
VOLVO VDS-4.5 Premium Motor Oil 15W40 (--- GAL)

DIAGNOSIS

Recommendation
Resample at the next service interval to monitor.

Wear
All component wear rates are normal.

Contamination
There is no indication of any contamination in the oil.

Fluid Condition
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**ML0001892**	VCP434913	VCP368490
Sample Date		Client Info		**09 May 2024**	05 Sep 2023	29 Nov 2022
Machine Age	hrs	Client Info		**8339**	7362	6131
Oil Age	hrs	Client Info		**977**	500	500
Oil Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**NORMAL**	ABNORMAL	ABNORMAL

CONTAMINATION		method	limit/base	current	history1	history2
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

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	**20**	19	14
Chromium	ppm	ASTM D5185m	>20	**<1**	<1	<1
Nickel	ppm	ASTM D5185m	>2	**2**	▲ 5	▲ 8
Titanium	ppm	ASTM D5185m		**0**	<1	0
Silver	ppm	ASTM D5185m	>2	**0**	0	0
Aluminum	ppm	ASTM D5185m	>25	**4**	4	2
Lead	ppm	ASTM D5185m	>40	**1**	3	<1
Copper	ppm	ASTM D5185m	>330	**7**	14	85
Tin	ppm	ASTM D5185m	>15	**0**	2	2
Vanadium	ppm	ASTM D5185m		**<1**	<1	0
Cadmium	ppm	ASTM D5185m		**0**	<1	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**0**	13	25
Barium	ppm	ASTM D5185m		**0**	0	0
Molybdenum	ppm	ASTM D5185m		**81**	85	53
Manganese	ppm	ASTM D5185m		**<1**	<1	<1
Magnesium	ppm	ASTM D5185m		**50**	145	785
Calcium	ppm	ASTM D5185m		**2309**	2197	1246
Phosphorus	ppm	ASTM D5185m		**897**	898	723
Zinc	ppm	ASTM D5185m		**1079**	1173	839
Sulfur	ppm	ASTM D5185m		**3956**	3998	2594

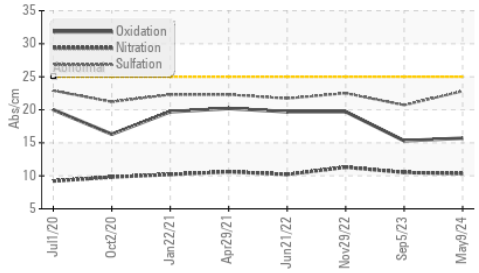
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**6**	7	10
Sodium	ppm	ASTM D5185m		**5**	3	3
Potassium	ppm	ASTM D5185m	>20	**0**	1	0

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**0.9**	0.8	0.5
Nitration	Abs/cm	*ASTM D7624	>20	**10.3**	10.5	11.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	**22.8**	20.7	22.5

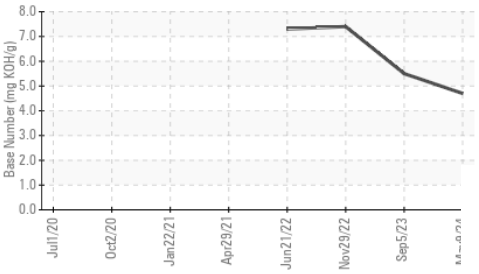
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**15.7**	15.3	19.7
Base Number (BN)	mg KOH/g	ASTM D2896		**4.7**	5.5	7.4

OIL ANALYSIS REPORT

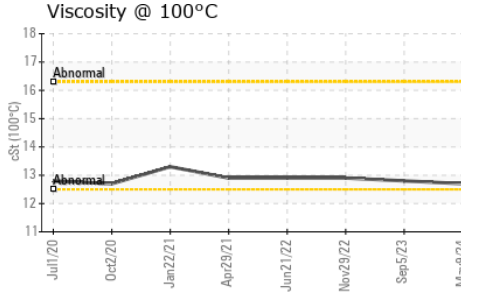
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C

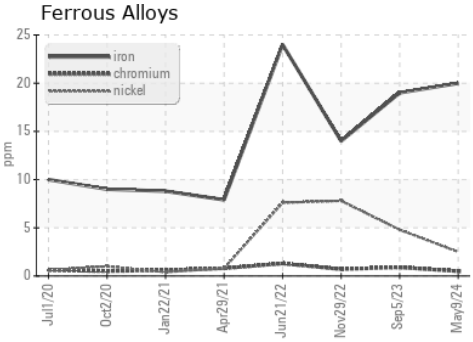


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	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
Free Water	scalar	*Visual		**NEG**	NEG	NEG

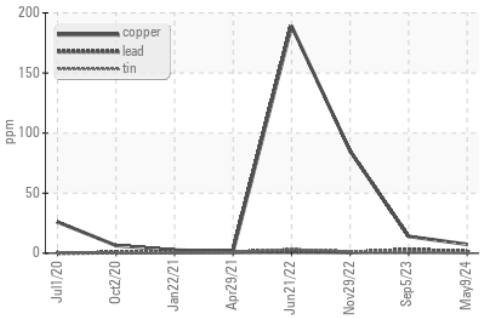
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445		**12.7**	12.8	12.9

GRAPHS

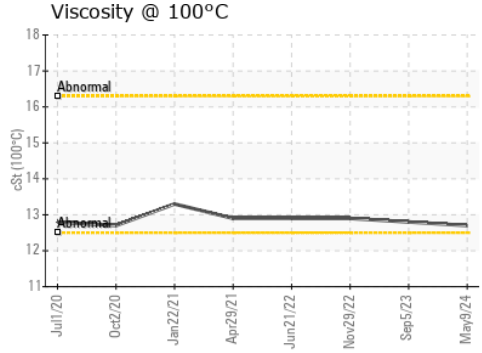
Ferrous Alloys



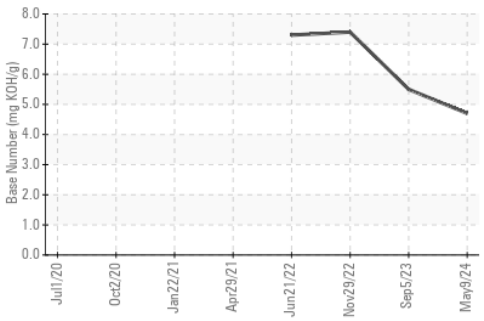
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : ML0001892
Lab Number : 06178312
Unique Number : 11029638
Test Package : CONST (Additional Tests: TBN)

Received : 14 May 2024
Tested : 14 May 2024
Diagnosed : 16 May 2024 - Sean Felton

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)

MCCLUNG-LOGAN EQUIPMENT CO - RICHMOND
1345 MOUNTAIN ROAD
GLEN ALLEN, VA
US 23060
Contact: KYLE RATLIFFE
KRATLIFFE@MCCLUNG-LOGAN.COM
T:
F: (804)266-1611