OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	ABNORMAL

Machine Id
VOLVO 12726
Component
Diesel Engine
Fluid
SHELL ROTELLA T4 15W40 (39 QTS)

RECOMMENDATION

The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

WEAR

All component wear rates are normal.

CONTAMINATION

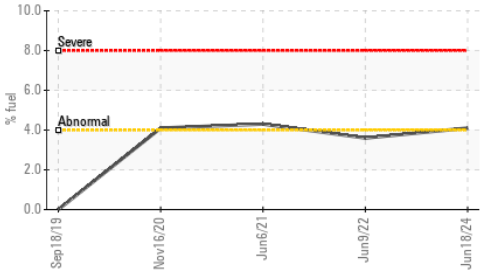
There is a moderate amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

FLUID CONDITION

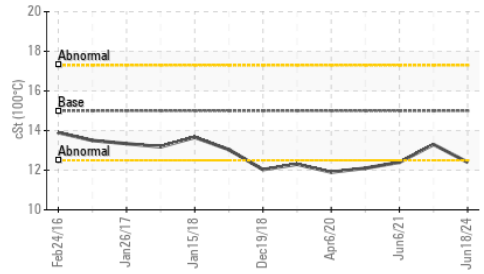
The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0888364	WC0692808	WC0567238
Sample Date		Client Info		18 Jun 2024	09 Jun 2022	06 Jun 2021
Machine Age	mls	Client Info		587870	516323	468705
Oil Age	mls	Client Info		24450	24030	20685
Filter Age	mls	Client Info		24450	24030	20685
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	MARGINAL	ABNORMAL
Iron	ppm	ASTM D5185m	>80	16	17	8
Chromium	ppm	ASTM D5185m	>6	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	0	<1
Titanium	ppm	ASTM D5185m	>2	<1	2	1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	5	5	<1
Lead	ppm	ASTM D5185m	>95	<1	2	<1
Copper	ppm	ASTM D5185m	>85	3	4	2
Tin	ppm	ASTM D5185m	>9	0	1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>25	5	5	3
Potassium	ppm	ASTM D5185m	>20	6	0	2
Fuel	%	ASTM D3524	>4.0	▲ 4.1	▲ 3.6	▲ 4.3
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844		0.4	0.4	0.3
Nitration	Abs/cm	*ASTM D7624	>20	10.2	11.1	10.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	27.6	17.3	25.1
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	>0.1	NEG	NEG	NEG
Sodium	ppm	ASTM D5185m		14	4	7
Boron	ppm	ASTM D5185m		13	0	6
Barium	ppm	ASTM D5185m		0	4	0
Molybdenum	ppm	ASTM D5185m		13	6	7
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		74	65	66
Calcium	ppm	ASTM D5185m		2188	2293	2125
Phosphorus	ppm	ASTM D5185m		912	816	861
Zinc	ppm	ASTM D5185m		1134	1078	973
Sulfur	ppm	ASTM D5185m		3384	3681	2956
Oxidation	Abs/.1mm	*ASTM D7414	>25	22.7	11.4	13.6
Base Number (BN)	mg KOH/g	ASTM D2896	10.1	3.4	6.5	5.1
Visc @ 100°C	cSt	ASTM D445	15	▲ 12.4	13.3	▲ 12.4

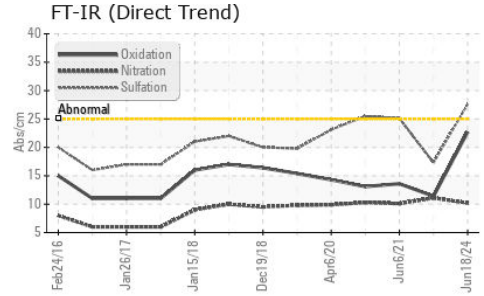
Fuel Dilution



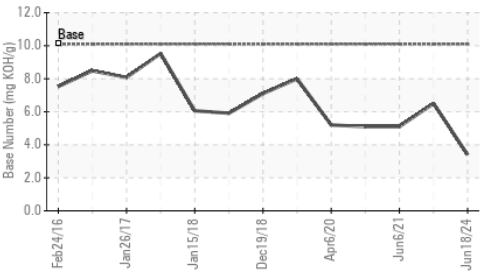
Viscosity @ 100°C



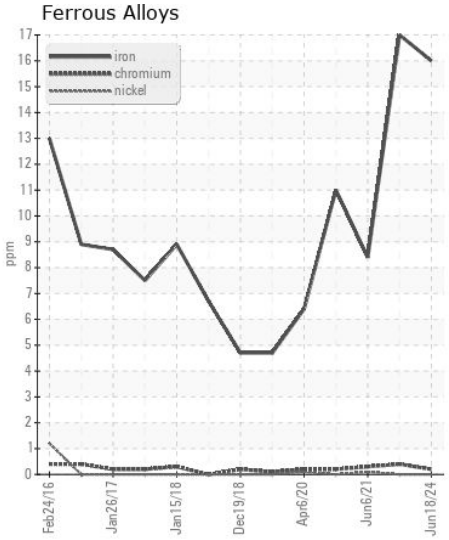
FT-IR (Direct Trend)



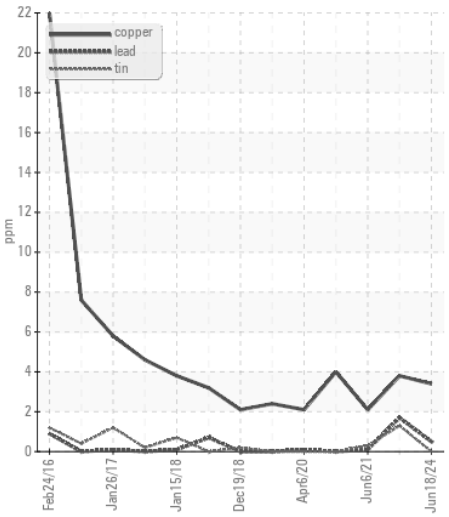
Base Number



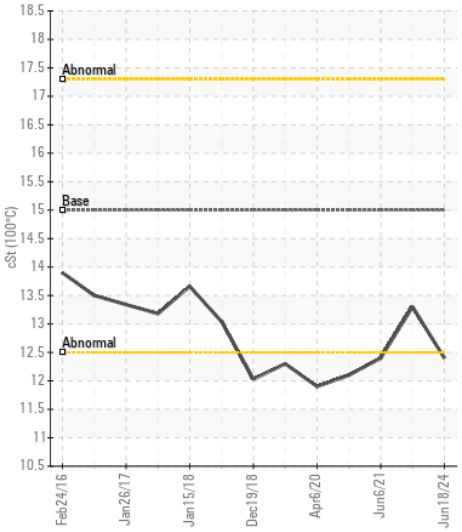
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



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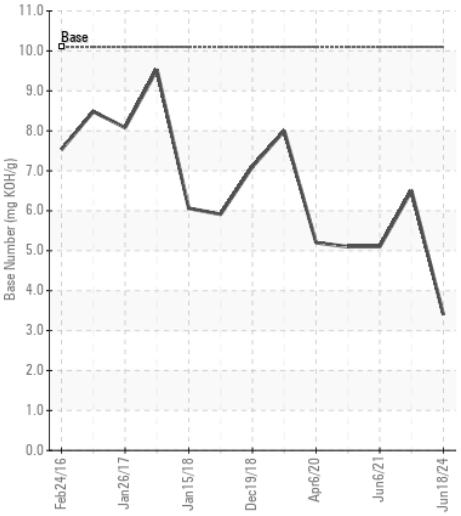

Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0888364
Lab Number : 06234340
Unique Number : 11123174
Test Package : FLEET (Additional Tests: FuelDilution, PercentFuel)

Received : 11 Jul 2024
Tested : 16 Jul 2024
Diagnosed : 16 Jul 2024 - Wes Davis

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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