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OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Machine Id
VOLVO 413 (S/N 4v4nc9eh2sn669543)
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 10W30 (10 GAL)

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

WEAR

All component wear rates are normal.

CONTAMINATION

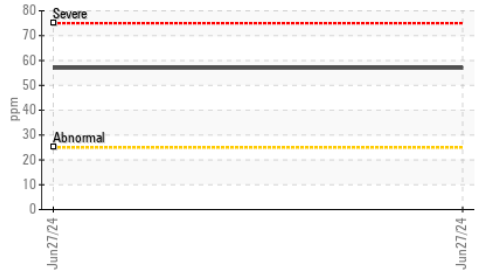
Fuel content negligible. Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. Elemental level of silicon (Si) above normal indicating ingress of seal material.

FLUID CONDITION

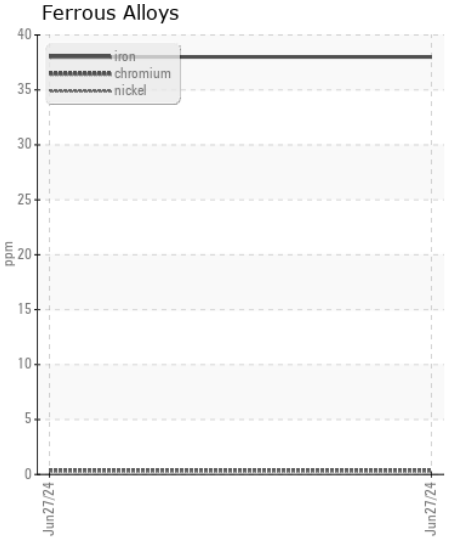
The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LW0009419	---	---
Sample Date		Client Info		27 Jun 2024	---	---
Machine Age	mls	Client Info		36566	---	---
Oil Age	mls	Client Info		36566	---	---
Filter Age	mls	Client Info		36566	---	---
Oil Changed		Client Info		Changed	---	---
Filter Changed		Client Info		Changed	---	---
Sample Status				ABNORMAL	---	---
Iron	ppm	ASTM D5185m	>100	38	---	---
Chromium	ppm	ASTM D5185m	>20	<1	---	---
Nickel	ppm	ASTM D5185m	>2	<1	---	---
Titanium	ppm	ASTM D5185m		0	---	---
Silver	ppm	ASTM D5185m	>2	3	---	---
Aluminum	ppm	ASTM D5185m	>25	29	---	---
Lead	ppm	ASTM D5185m	>40	0	---	---
Copper	ppm	ASTM D5185m	>330	16	---	---
Tin	ppm	ASTM D5185m	>15	4	---	---
Vanadium	ppm	ASTM D5185m		0	---	---
White Metal	scalar	*Visual	NONE	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---
Silicon	ppm	ASTM D5185m	>25	▲ 57	---	---
Potassium	ppm	ASTM D5185m	>20	66	---	---
Fuel	%	ASTM D3524	>6.0	0.4	---	---
Water		WC Method	>0.2	NEG	---	---
Glycol		WC Method		NEG	---	---
Soot %	%	*ASTM D7844	>3	0.2	---	---
Nitration	Abs/cm	*ASTM D7624	>20	11.8	---	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	24.9	---	---
Silt	scalar	*Visual	NONE	NONE	---	---
Debris	scalar	*Visual	NONE	NONE	---	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---	---
Appearance	scalar	*Visual	NORML	NORML	---	---
Odor	scalar	*Visual	NORML	NORML	---	---
Emulsified Water	scalar	*Visual	>0.2	NEG	---	---
Sodium	ppm	ASTM D5185m		4	---	---
Boron	ppm	ASTM D5185m	2	71	---	---
Barium	ppm	ASTM D5185m	0	0	---	---
Molybdenum	ppm	ASTM D5185m	50	119	---	---
Manganese	ppm	ASTM D5185m	0	4	---	---
Magnesium	ppm	ASTM D5185m	950	684	---	---
Calcium	ppm	ASTM D5185m	1050	1476	---	---
Phosphorus	ppm	ASTM D5185m	995	665	---	---
Zinc	ppm	ASTM D5185m	1180	803	---	---
Sulfur	ppm	ASTM D5185m	2600	2353	---	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	26.2	---	---
Base Number (BN)	mg KOH/g	ASTM D2896		6.1	---	---
Visc @ 100°C	cSt	ASTM D445	12.00	9.1	---	---

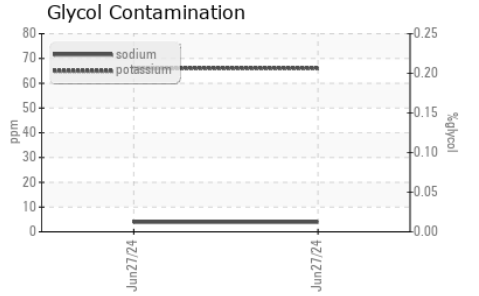
Silicon (ppm)



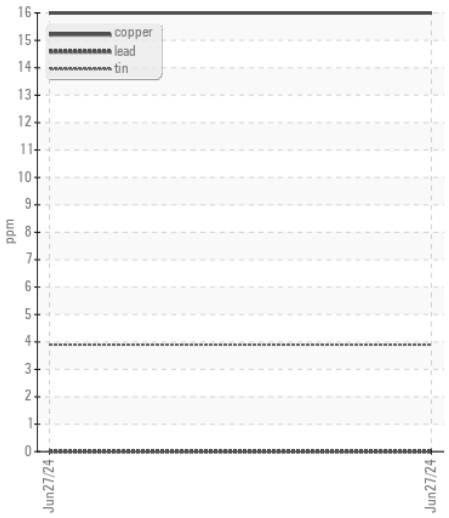
Ferrous Alloys



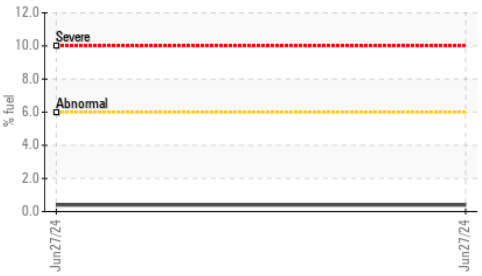
Glycol Contamination



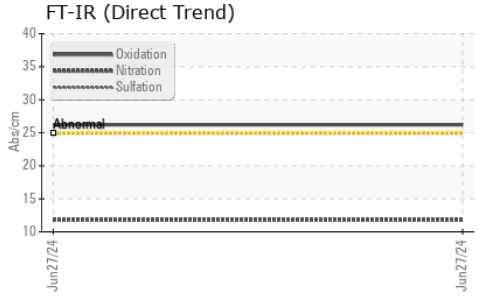
Non-ferrous Metals



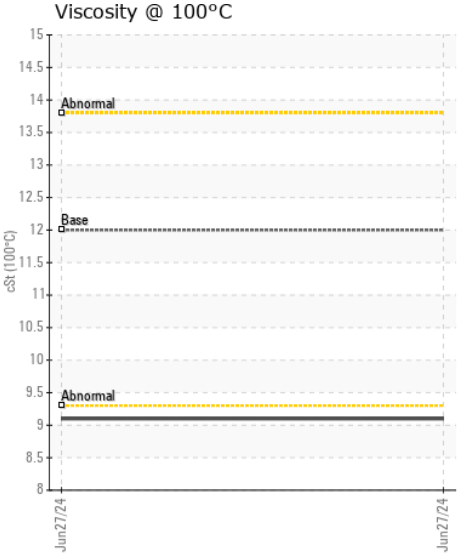
Fuel Dilution



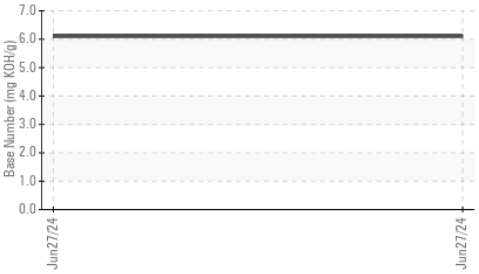
FT-IR (Direct Trend)



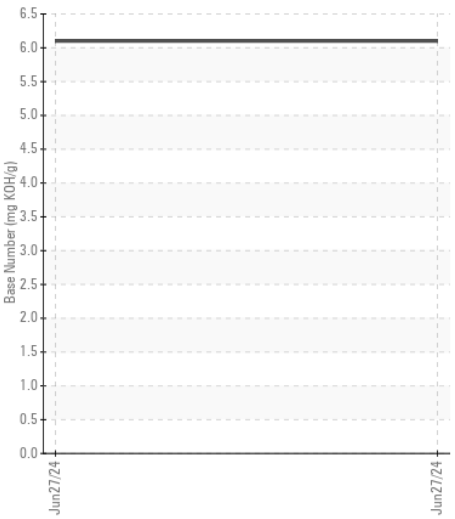
Viscosity @ 100°C



Base Number



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LW0009419 **Received** : 01 Jul 2024
Lab Number : 06225588 **Tested** : 06 Jul 2024
Unique Number : 11103785 **Diagnosed** : 06 Jul 2024 - Don Baldridge
Test Package : FLEET (Additional Tests: FuelDilution, PercentFuel)

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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