



Area

FLEET

Machine Id

VOLVO 2227062 (S/N 4V4NC9EH8RN631468)

Component

Diesel Engine

Fluid

{not provided} (42 QTS)

RECOMMENDATION

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		PCA0124520	---	---
Sample Date		Client Info		07 Jun 2024	---	---
Machine Age	mls	Client Info		20107	---	---
Oil Age	mls	Client Info		20107	---	---
Filter Age	mls	Client Info		20107	---	---
Oil Changed		Client Info		Changed	---	---
Filter Changed		Client Info		Changed	---	---
Sample Status				ABNORMAL	---	---

WEAR

Metal levels are typical for a new component breaking in.

Iron	ppm	ASTM D5185m	>100	52	---	---
Chromium	ppm	ASTM D5185m	>20	<1	---	---
Nickel	ppm	ASTM D5185m	>2	7	---	---
Titanium	ppm	ASTM D5185m		<1	---	---
Silver	ppm	ASTM D5185m	>2	18	---	---
Aluminum	ppm	ASTM D5185m	>25	30	---	---
Lead	ppm	ASTM D5185m	>40	3	---	---
Copper	ppm	ASTM D5185m	>330	259	---	---
Tin	ppm	ASTM D5185m	>15	3	---	---
Vanadium	ppm	ASTM D5185m		<1	---	---
White Metal	scalar	*Visual	NONE	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---

CONTAMINATION

Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. 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.

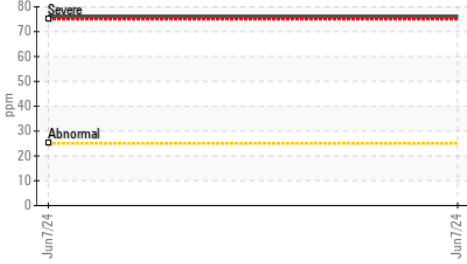
Silicon	ppm	ASTM D5185m	>25	76	---	---
Potassium	ppm	ASTM D5185m	>20	90	---	---
Fuel	%	ASTM D3524	>6.0	<1.0	---	---
Water		WC Method	>0.2	NEG	---	---
Glycol		WC Method		NEG	---	---
Soot %	%	*ASTM D7844	>3	0.2	---	---
Nitration	Abs/cm	*ASTM D7624	>20	10.3	---	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	24.5	---	---
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	---	---

FLUID CONDITION

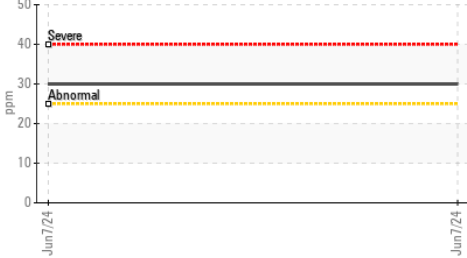
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185m		7	---	---
Boron	ppm	ASTM D5185m		203	---	---
Barium	ppm	ASTM D5185m		<1	---	---
Molybdenum	ppm	ASTM D5185m		120	---	---
Manganese	ppm	ASTM D5185m		5	---	---
Magnesium	ppm	ASTM D5185m		701	---	---
Calcium	ppm	ASTM D5185m		1556	---	---
Phosphorus	ppm	ASTM D5185m		692	---	---
Zinc	ppm	ASTM D5185m		786	---	---
Sulfur	ppm	ASTM D5185m		2551	---	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	23.1	---	---
Base Number (BN)	mg KOH/g	ASTM D2896		8.0	---	---
Visc @ 100°C	cSt	ASTM D445		9.3	---	---

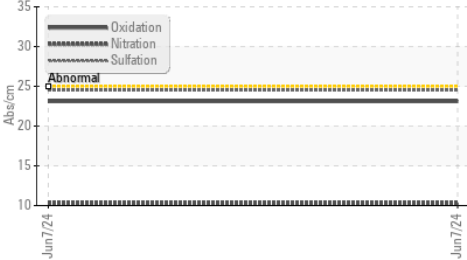
▲ Silicon (ppm)



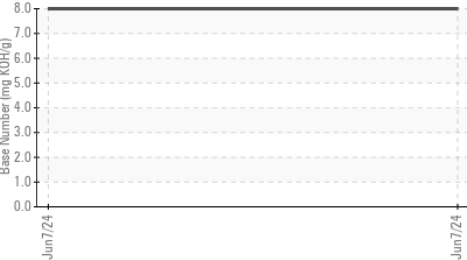
● Aluminum (ppm)



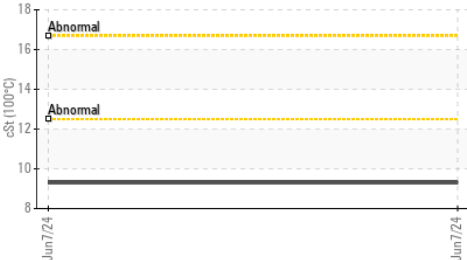
FT-IR (Direct Trend)



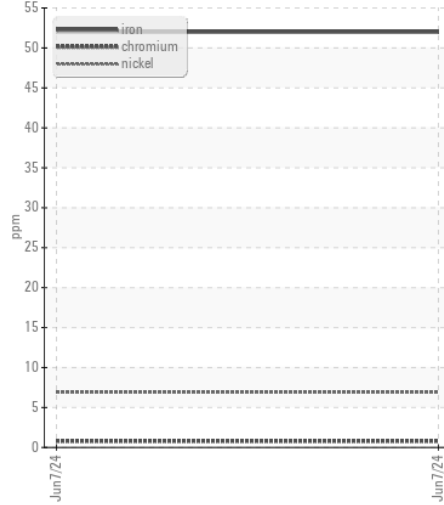
Base Number



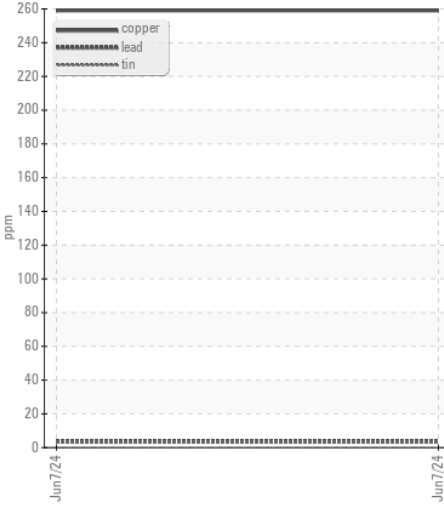
Viscosity @ 100°C



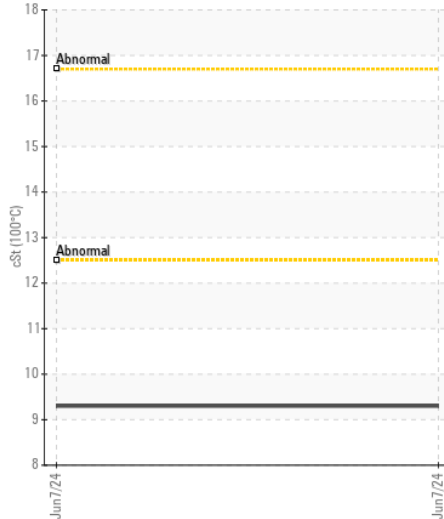
Ferrous Alloys



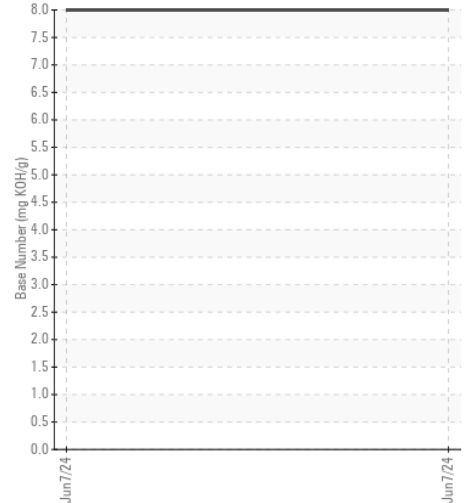
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0124520 **Received** : 20 Jun 2024
Lab Number : 06215556 **Tested** : 21 Jun 2024
Unique Number : 11088420 **Diagnosed** : 21 Jun 2024 - Sean Felton
Test Package : FLEET (Additional Tests: FuelDilution)

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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