



Machine Id
VOLVO 405 (S/N 4v4nc9eh6sn669545)
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.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LW0009399	---	---
Sample Date		Client Info		17 Jun 2024	---	---
Machine Age	hrs	Client Info		54770	---	---
Oil Age	hrs	Client Info		54770	---	---
Filter Age	hrs	Client Info		54770	---	---
Oil Changed		Client Info		Changed	---	---
Filter Changed		Client Info		Changed	---	---
Sample Status				ABNORMAL	---	---

WEAR

Cylinder, crank, or cam shaft wear is indicated. All other metal levels are typical for a new component breaking in.

Iron	ppm	ASTM D5185m	>100	▲ 107	---	---
Chromium	ppm	ASTM D5185m	>20	2	---	---
Nickel	ppm	ASTM D5185m	>2	<1	---	---
Titanium	ppm	ASTM D5185m		<1	---	---
Silver	ppm	ASTM D5185m	>2	3	---	---
Aluminum	ppm	ASTM D5185m	>25	41	---	---
Lead	ppm	ASTM D5185m	>40	<1	---	---
Copper	ppm	ASTM D5185m	>330	38	---	---
Tin	ppm	ASTM D5185m	>15	9	---	---
Vanadium	ppm	ASTM D5185m		<1	---	---
White Metal	scalar	*Visual	NONE	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---

CONTAMINATION

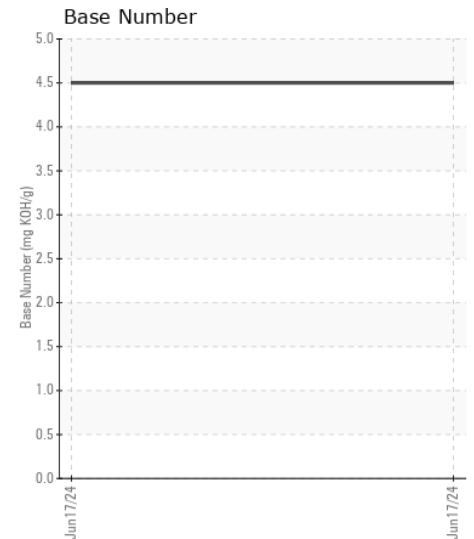
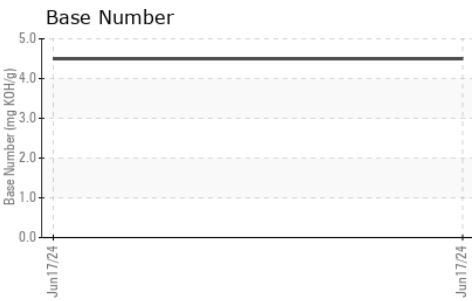
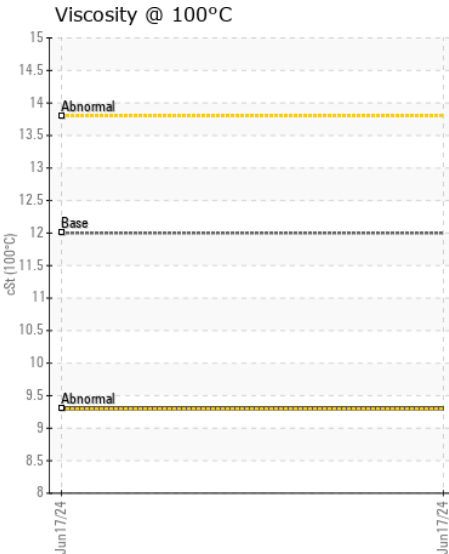
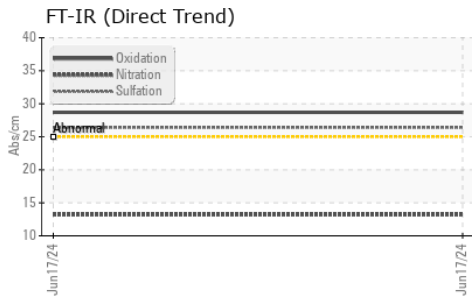
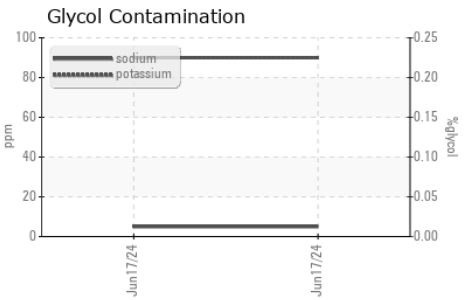
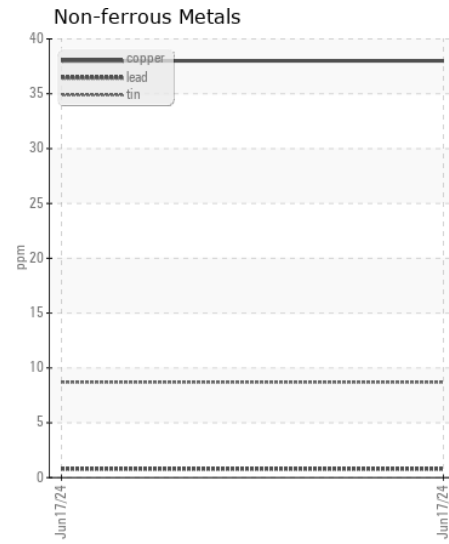
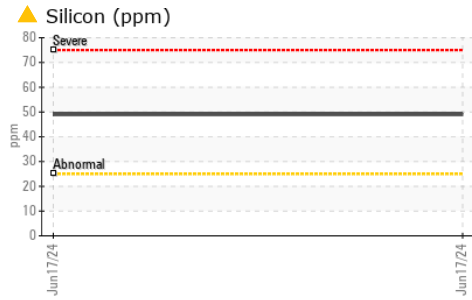
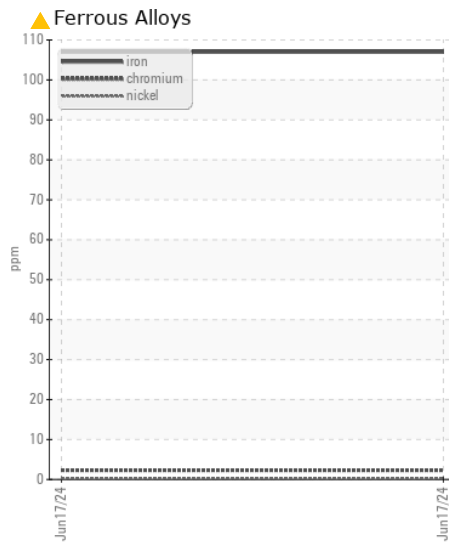
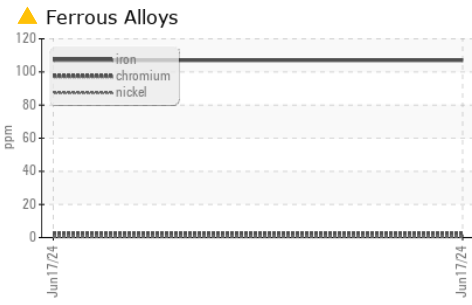
Elemental level of silicon (Si) above normal indicating ingress of seal material. Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components.

Silicon	ppm	ASTM D5185m	>25	▲ 49	---	---
Potassium	ppm	ASTM D5185m	>20	90	---	---
Fuel		WC Method	>6.0	<1.0	---	---
Water		WC Method	>0.2	NEG	---	---
Glycol		WC Method		NEG	---	---
Soot %	%	*ASTM D7844	>3	0.9	---	---
Nitration	Abs/cm	*ASTM D7624	>20	13.2	---	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	26.4	---	---
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		5	---	---
Boron	ppm	ASTM D5185m	2	21	---	---
Barium	ppm	ASTM D5185m	0	<1	---	---
Molybdenum	ppm	ASTM D5185m	50	117	---	---
Manganese	ppm	ASTM D5185m	0	5	---	---
Magnesium	ppm	ASTM D5185m	950	705	---	---
Calcium	ppm	ASTM D5185m	1050	1745	---	---
Phosphorus	ppm	ASTM D5185m	995	754	---	---
Zinc	ppm	ASTM D5185m	1180	911	---	---
Sulfur	ppm	ASTM D5185m	2600	2558	---	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	28.7	---	---
Base Number (BN)	mg KOH/g	ASTM D2896		4.5	---	---
Visc @ 100°C	cSt	ASTM D445	12.00	9.3	---	---



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LW0009399
Lab Number : 06217916
Unique Number : 11096113
Test Package : FLEET

Received : 24 Jun 2024
Tested : 25 Jun 2024
Diagnosed : 25 Jun 2024 - Don Baldrige

LIV TRANSPORTATION, INC
 9809 INDUSTRIAL DRIVE
 BRIDGEVIEW, IL
 US 60455
 Contact: BART KORLAGA
 BART@LIVTRANSPORTATION.COM
 T: (224)875-1049
 F:

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)