



# LIEBHERR

## OIL ANALYSIS REPORT

WEAR	<b>NORMAL</b>
CONTAMINATION	<b>NORMAL</b>
FLUID CONDITION	<b>NORMAL</b>



Machine Id  
**VOLVO G780B 38178**  
Component  
**Diesel Engine**  
Fluid  
**CHEVRON Delo 600 ADF 15W40 (--- GAL)**

### RECOMMENDATION

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		<b>LH0272061</b>	VC466805	VC466806
Sample Date		Client Info		<b>25 Jun 2024</b>	17 Sep 2012	16 Jul 2012
Machine Age	hrs	Client Info		<b>1098</b>	8823	8568
Oil Age	hrs	Client Info		<b>500</b>	250	250
Filter Age	hrs	Client Info		<b>500</b>	250	250
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

### WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>9</b>	10	11
Chromium	ppm	ASTM D5185m	>10	<b>0</b>	<1	<1
Nickel	ppm	ASTM D5185m	>10	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m		<b>0</b>	0	0
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	<1
Aluminum	ppm	ASTM D5185m	>10	<b>10</b>	1	2
Lead	ppm	ASTM D5185m	>20	<b>0</b>	10	8
Copper	ppm	ASTM D5185m	>15	<b>3</b>	1	2
Tin	ppm	ASTM D5185m	>10	<b>0</b>	<1	<1
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

### CONTAMINATION

There is no indication of any contamination in the oil.

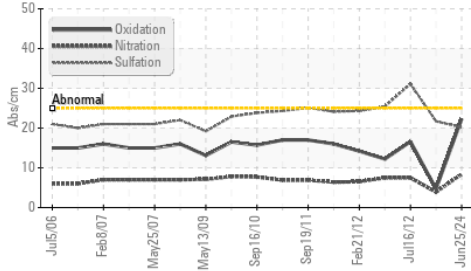
Silicon	ppm	ASTM D5185m	>20	<b>10</b>	2	2
Potassium	ppm	ASTM D5185m	>20	<b>329</b>	3	1
Fuel		WC Method	>4.0	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.1	<b>NEG</b>	NEG	NEG
Glycol	%	*ASTM D2982		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.1</b>	0	0.2
Nitration	Abs/cm	*ASTM D7624	>20	<b>8.4</b>	3.9	7.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>20.2</b>	21.7	31.1
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	LIGHT	VLITE
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	<b>NEG</b>	NEG	NEG

### FLUID CONDITION

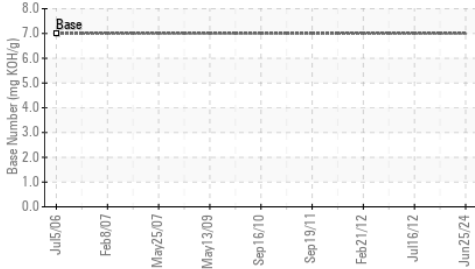
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185m		<b>3</b>	0	1
Boron	ppm	ASTM D5185m	775	<b>253</b>	2	16
Barium	ppm	ASTM D5185m		<b>0</b>	<1	<1
Molybdenum	ppm	ASTM D5185m	1000	<b>838</b>	<1	<1
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Magnesium	ppm	ASTM D5185m	100	<b>224</b>	14	25
Calcium	ppm	ASTM D5185m	680	<b>712</b>	2199	2431
Phosphorus	ppm	ASTM D5185m	110	<b>182</b>	813	957
Zinc	ppm	ASTM D5185m	140	<b>208</b>	1248	1277
Sulfur	ppm	ASTM D5185m	1750	<b>2255</b>	3682	3957
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>22.3</b>	4.7	16.6
Base Number (BN)	mg KOH/g	ASTM D2896	7	<b>2.9</b>	---	---
Visc @ 100°C	cSt	ASTM D445	14.9	<b>13.3</b>	12.8	12.8

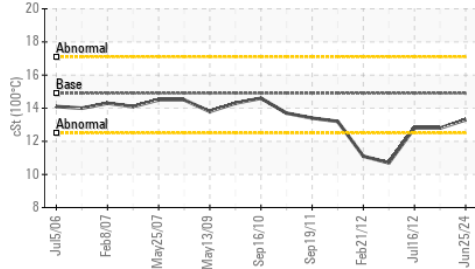
**FT-IR (Direct Trend)**



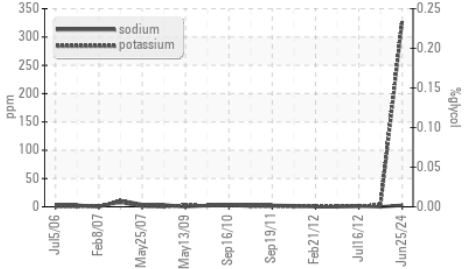
**Base Number**



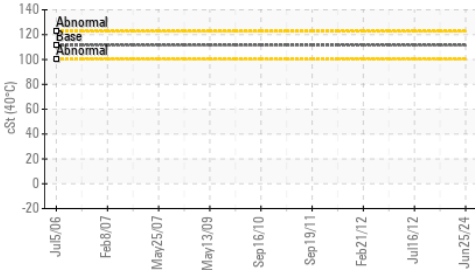
**Viscosity @ 100°C**



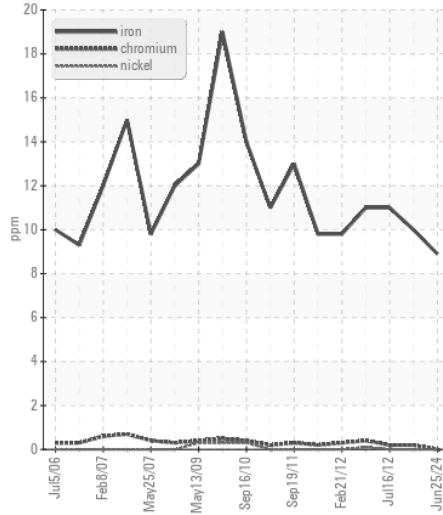
**Glycol Contamination**



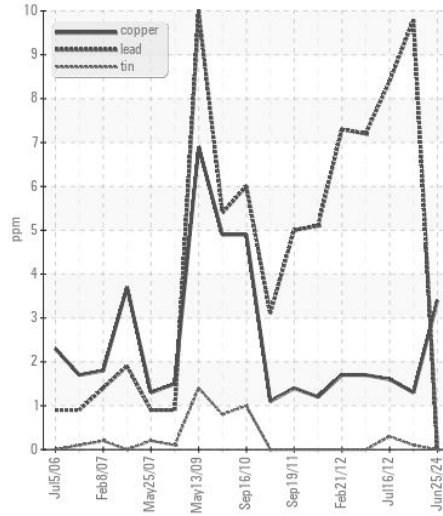
**Viscosity @ 40°C**



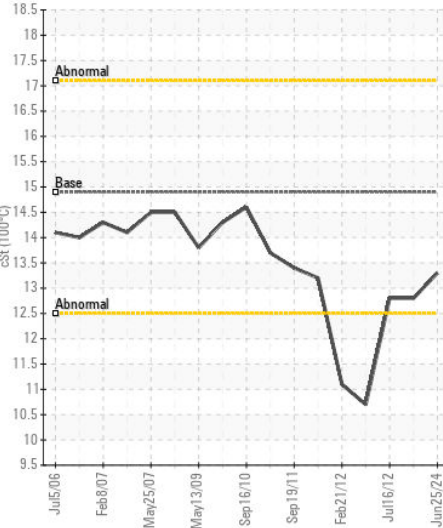
**Ferrous Alloys**



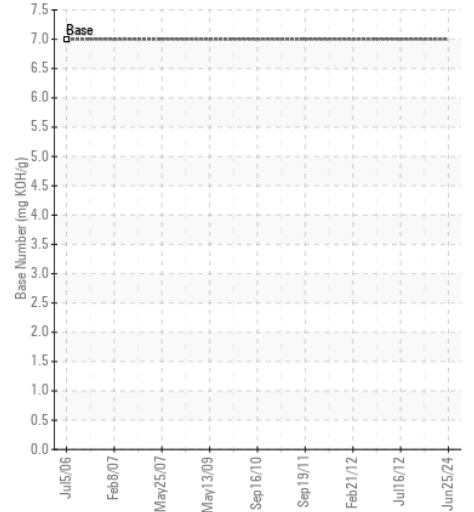
**Non-ferrous Metals**



**Viscosity @ 100°C**



**Base Number**



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : LH0272061 **Received** : 01 Jul 2024  
**Lab Number** : 06225540 **Tested** : 03 Jul 2024  
**Unique Number** : 11103737 **Diagnosed** : 03 Jul 2024 - Jonathan Hester  
**Test Package** : CONST ( Additional Tests: Glycol, KV40, TBN )

**R.M. OF SIGLUNES**  
 BOX 370  
 ASHERN, MB  
 CA R0C 0E0  
 Contact: Service Manager

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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F: