



VOLVO

OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	SEVERE
FLUID CONDITION	ABNORMAL



Machine Id
CATERPILLAR D8T JKPZ03752
Component
Diesel Engine
Fluid
CAT DEO ULS 15W40 (--- GAL)

RECOMMENDATION

We advise that you check for the source of the coolant leak. Check for low coolant level. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		VCP431637	VCP404567	VCP355259
Sample Date		Client Info		15 Jan 2024	19 Dec 2023	09 Jan 2023
Machine Age	hrs	Client Info		0	10487	9733
Oil Age	hrs	Client Info		25	459	296
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				SEVERE	SEVERE	ABNORMAL

WEAR

The copper level is abnormal. In the absence of other significant wear metals, suspect copper due to sources other than wear (i.e. cooling core).

Iron	ppm	ASTM D5185m	>100	7	27	16
Chromium	ppm	ASTM D5185m	>20	0	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	<1	<1
Titanium	ppm	ASTM D5185m	>2	<1	<1	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>25	2	2	2
Lead	ppm	ASTM D5185m	>40	8	14	1
Copper	ppm	ASTM D5185m	>330	▲ 566	▲ 445	5
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m		<1	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

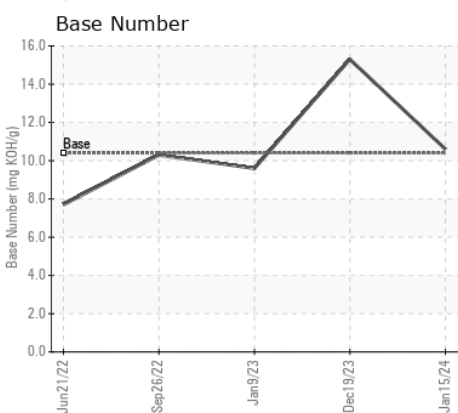
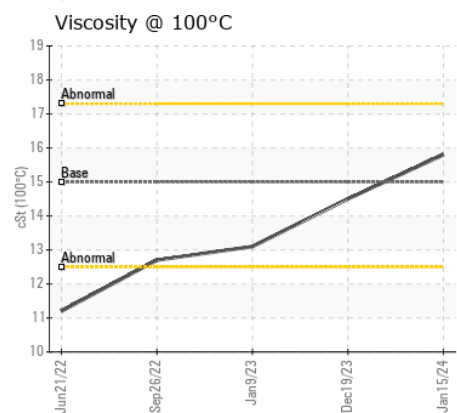
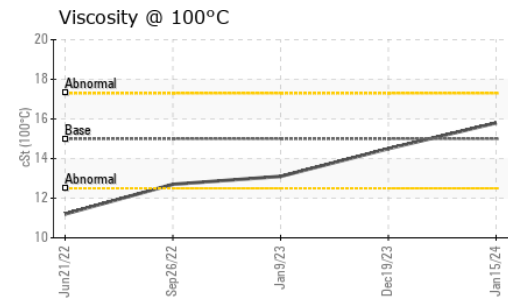
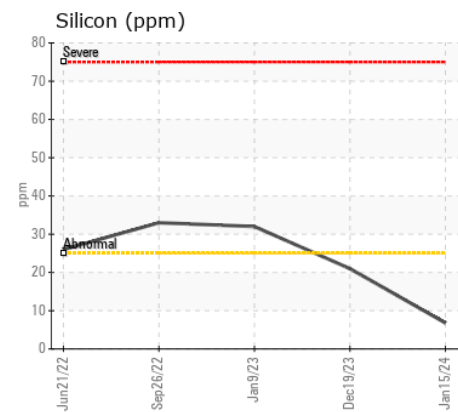
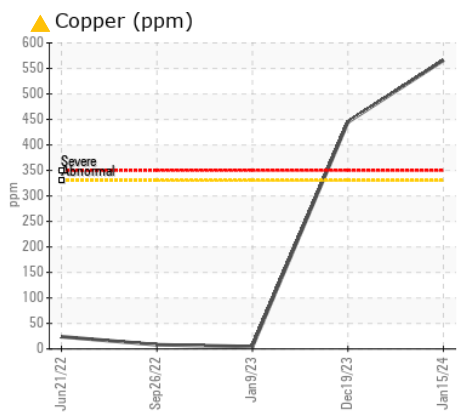
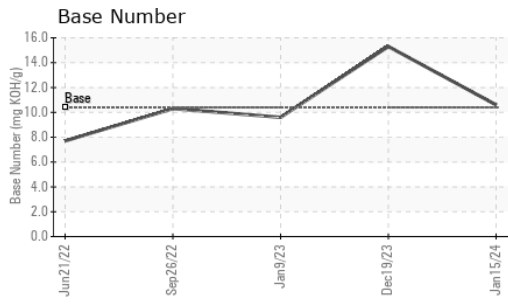
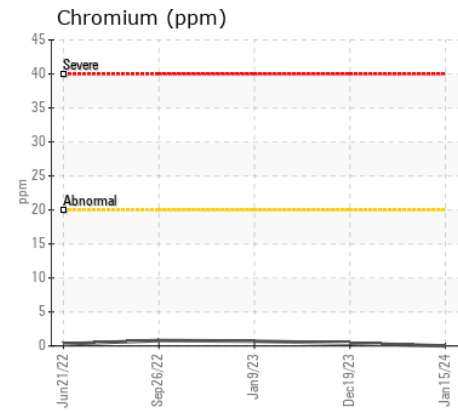
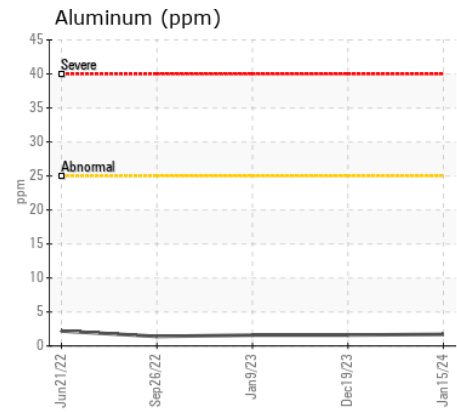
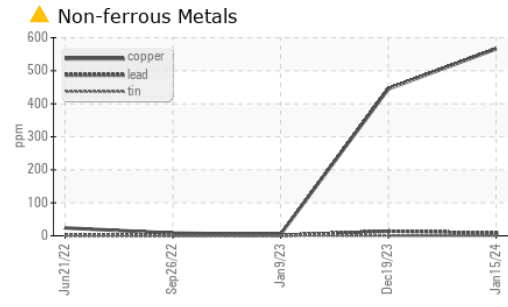
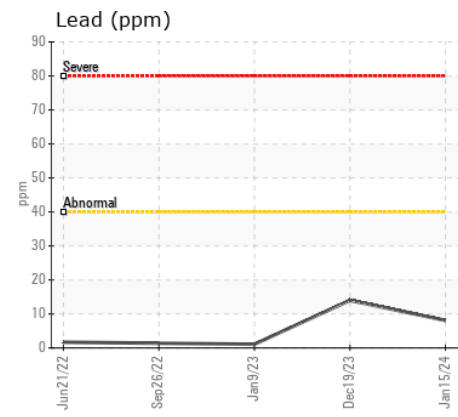
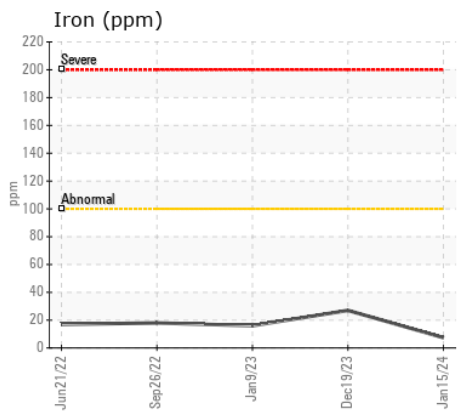
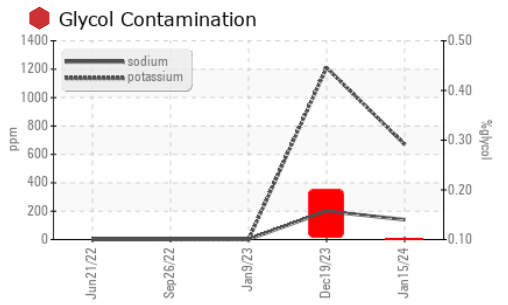
Sodium and/or potassium levels are high. There is a high concentration of glycol present in the oil.

Silicon	ppm	ASTM D5185m	>25	7	21	▲ 32
Potassium	ppm	ASTM D5185m	>20	▲ 671	▲ 1211	<1
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol	%	*ASTM D2982		● 0.10	● 0.20	NEG
Soot %	%	*ASTM D7844	>3	0	0.2	0.4
Nitration	Abs/cm	*ASTM D7624	>20	6.3	8.9	6.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	15.9	17.5	22.0
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	>0.2	NEG	NEG	NEG

FLUID CONDITION

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

Sodium	ppm	ASTM D5185m		▲ 140	▲ 200	2
Boron	ppm	ASTM D5185m		9	22	57
Barium	ppm	ASTM D5185m		<1	0	0
Molybdenum	ppm	ASTM D5185m		103	212	46
Manganese	ppm	ASTM D5185m		<1	1	<1
Magnesium	ppm	ASTM D5185m		96	192	466
Calcium	ppm	ASTM D5185m		1987	1657	1802
Phosphorus	ppm	ASTM D5185m	1000	955	877	946
Zinc	ppm	ASTM D5185m	1090	1098	1046	1154
Sulfur	ppm	ASTM D5185m	3000	3629	3179	3481
Oxidation	Abs/.1mm	*ASTM D7414	>25	10.0	12.6	18.7
Base Number (BN)	mg KOH/g	ASTM D2896	10.4	10.6	15.3	9.6
Visc @ 100°C	cSt	ASTM D445	15.0	15.8	14.5	13.1



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : VCP431637 **Received** : 19 Jan 2024
Lab Number : 06065282 **Diagnosed** : 23 Jan 2024
Unique Number : 10836664 **Diagnostician** : Angela Borella
Test Package : MOB 1 (Additional Tests: TBN)

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Certificate L2367
 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)