



WEAR CHECK

OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	SEVERE
FLUID CONDITION	NORMAL

Machine Id
CL-17

Component
Diesel Engine

Fluid
CHEVRON DELO 400 MULTIGRADE 15W40 (--- 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. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0727976	WC0720243	WC0548599
Sample Date		Client Info		12 Feb 2024	10 Jan 2023	20 Apr 2022
Machine Age	hrs	Client Info		2407	1659	788
Oil Age	hrs	Client Info		500	500	250
Filter Age	hrs	Client Info		500	500	250
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				SEVERE	NORMAL	NORMAL

WEAR

Cylinder, crank, or cam shaft wear is indicated.

Iron	ppm	ASTM D5185m	>100	▲ 179	42	12
Chromium	ppm	ASTM D5185m	>20	7	2	<1
Nickel	ppm	ASTM D5185m	>4	1	0	0
Titanium	ppm	ASTM D5185m		4	2	2
Silver	ppm	ASTM D5185m	>3	0	0	<1
Aluminum	ppm	ASTM D5185m	>20	▲ 69	12	4
Lead	ppm	ASTM D5185m	>40	0	0	<1
Copper	ppm	ASTM D5185m	>330	6	5	2
Tin	ppm	ASTM D5185m	>15	<1	0	<1
Vanadium	ppm	ASTM D5185m		<1	0	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

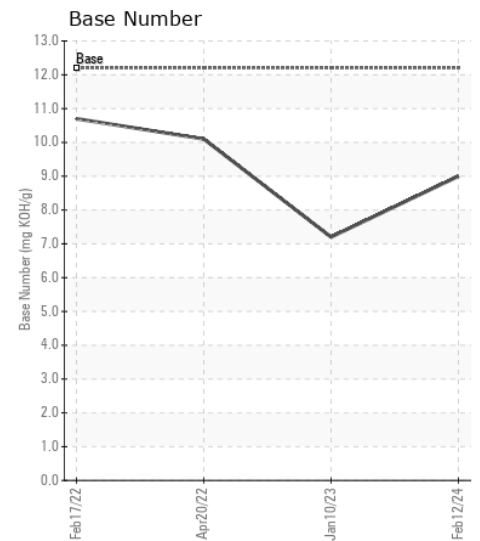
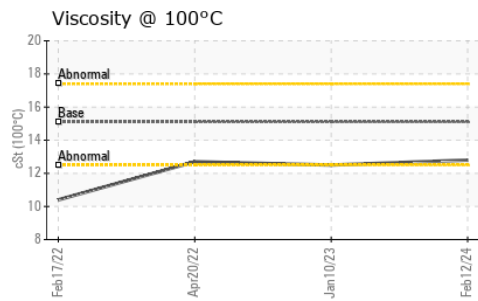
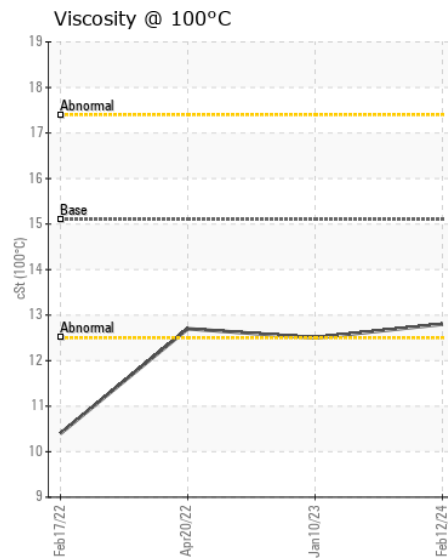
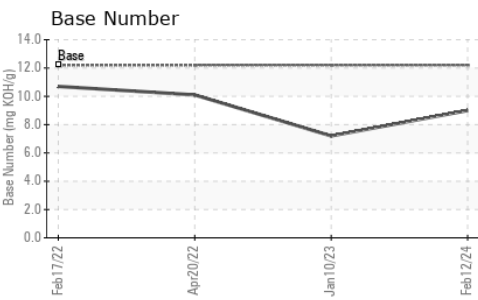
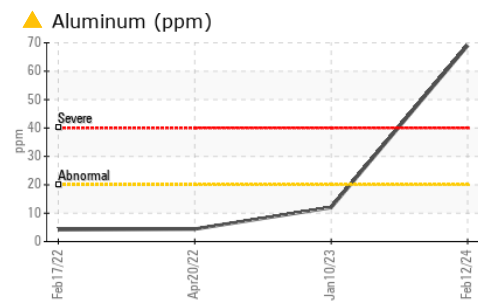
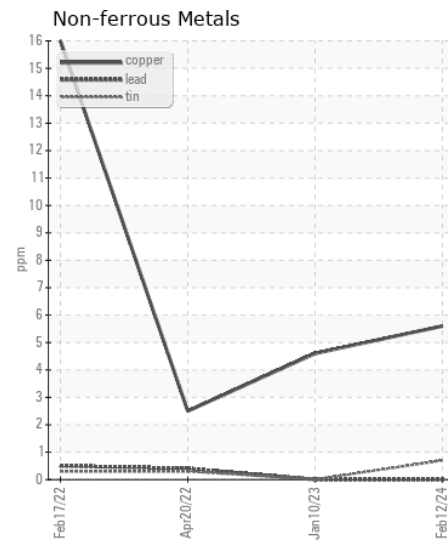
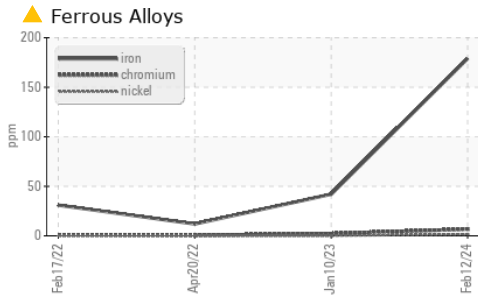
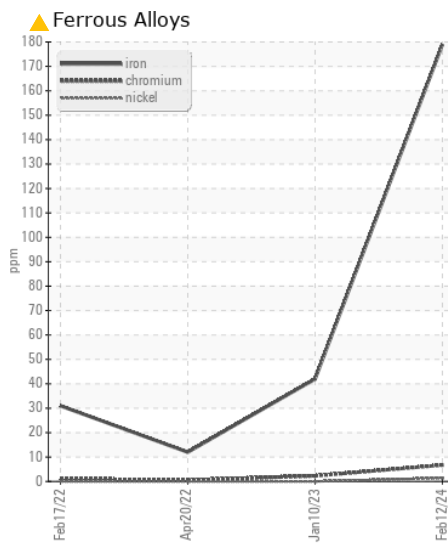
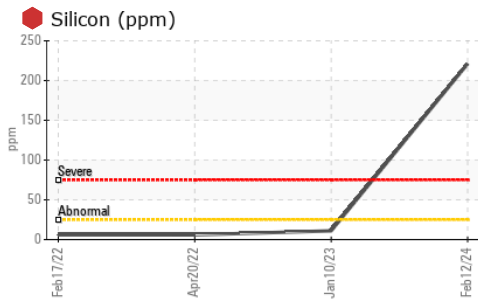
Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

Silicon	ppm	ASTM D5185m	>25	◆ 221	11	6
Potassium	ppm	ASTM D5185m	>20	20	6	2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.2	0.2	0.1
Nitration	Abs/cm	*ASTM D7624	>20	9.5	9.3	7.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	22.8	21.5	23.1
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		4	5	2
Boron	ppm	ASTM D5185m		225	161	224
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		109	85	83
Manganese	ppm	ASTM D5185m		2	<1	<1
Magnesium	ppm	ASTM D5185m		691	508	558
Calcium	ppm	ASTM D5185m		2769	1462	1507
Phosphorus	ppm	ASTM D5185m	1360	719	668	736
Zinc	ppm	ASTM D5185m	1480	858	809	868
Sulfur	ppm	ASTM D5185m		2637	2403	2310
Oxidation	Abs/.1mm	*ASTM D7414	>25	17.7	17.3	17.3
Base Number (BN)	mg KOH/g	ASTM D2896	12.2	9.0	7.2	10.1
Visc @ 100°C	cSt	ASTM D445	15.1	12.8	12.5	12.7



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : WC0727976

Lab Number : 06087964

Unique Number : 10875409

Test Package : FLEET

Received : 13 Feb 2024

Tested : 14 Feb 2024

Diagnosed : 15 Feb 2024 - Don Baldrige

ASSOCIATED TERMINALS - MOBILE EQUIPMENT

LAPLACE, LA
US 70068

Contact: LONNIE BECNEL
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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)