



WEAR CHECK

OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	ABNORMAL

Machine Id
3170
Component
Diesel Engine
Fluid
CHEVRON DELO 400 XLE 10W30 (--- QTS)

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		WC0816632	WC0663067	WC0663052
Sample Date		Client Info		31 Jul 2023	08 Apr 2023	22 Feb 2023
Machine Age	mls	Client Info		137381	89163	68626
Oil Age	mls	Client Info		48175	42937	22400
Filter Age	mls	Client Info		48175	42937	22400
Oil Changed		Client Info		Changed	Changed	Not Changd
Filter Changed		Client Info		Changed	Changed	Not Changd
Sample Status				ABNORMAL	NORMAL	NORMAL

WEAR

Cylinder, crank, or cam shaft wear is indicated.

Iron	ppm	ASTM D5185m	>100	▲ 131	48	31
Chromium	ppm	ASTM D5185m	>20	1	<1	<1
Nickel	ppm	ASTM D5185m	>4	2	<1	0
Titanium	ppm	ASTM D5185m		0	<1	<1
Silver	ppm	ASTM D5185m	>3	<1	<1	<1
Aluminum	ppm	ASTM D5185m	>20	9	17	14
Lead	ppm	ASTM D5185m	>40	0	0	0
Copper	ppm	ASTM D5185m	>330	126	25	22
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m		0	<1	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

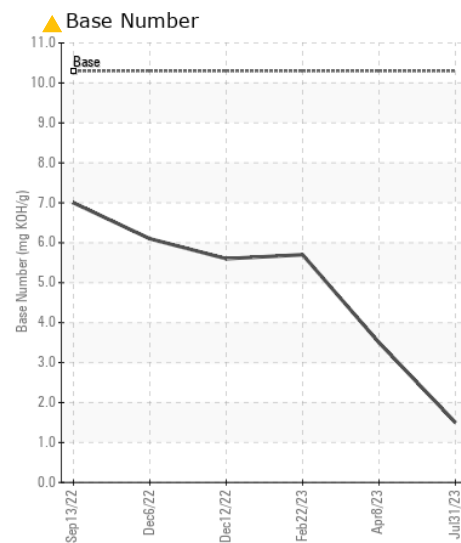
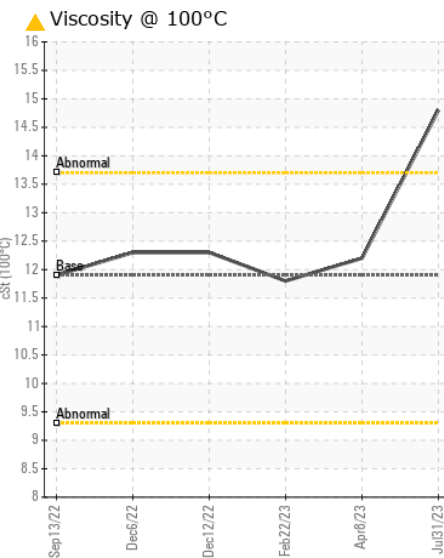
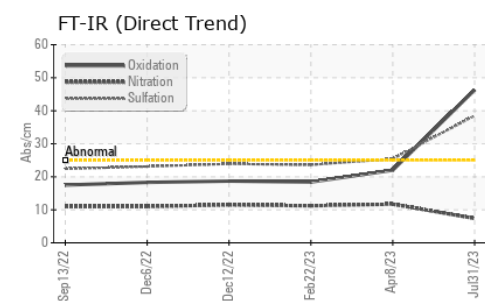
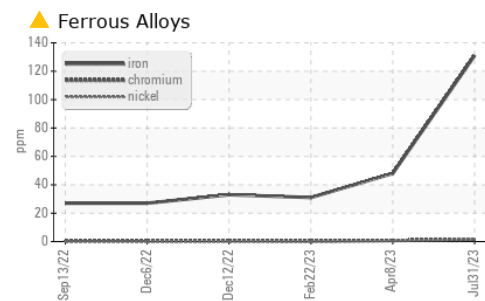
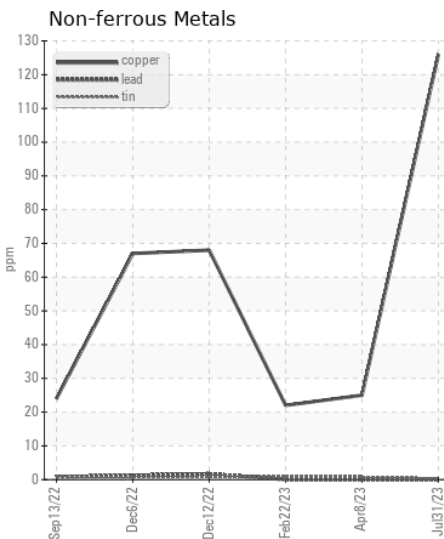
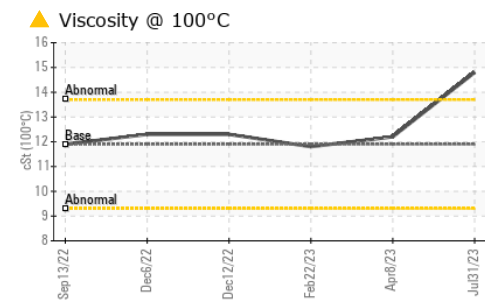
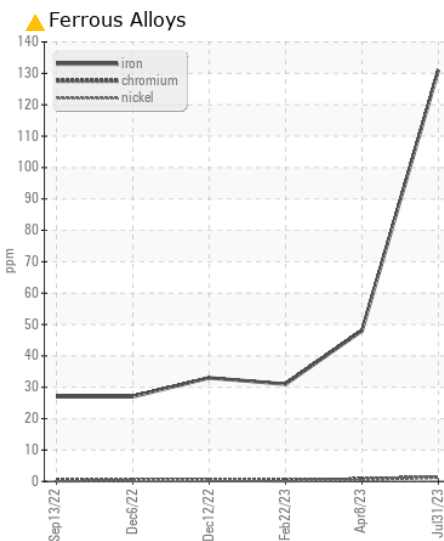
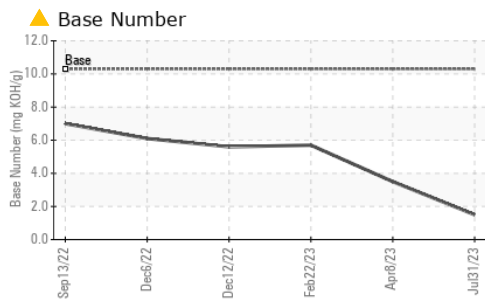
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	6	6	6
Potassium	ppm	ASTM D5185m	>20	7	27	23
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	0.8	1	0.6
Nitration	Abs/cm	*ASTM D7624	>20	7.4	11.7	11.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	38.5	25.4	23.6
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 oil viscosity is higher than normal. The BN level is low.

Sodium	ppm	ASTM D5185m		2	4	2
Boron	ppm	ASTM D5185m		26	18	21
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		4	5	<1
Manganese	ppm	ASTM D5185m		4	2	<1
Magnesium	ppm	ASTM D5185m		273	808	811
Calcium	ppm	ASTM D5185m	2900	509	1473	1442
Phosphorus	ppm	ASTM D5185m	1100	990	764	707
Zinc	ppm	ASTM D5185m	1200	475	895	860
Sulfur	ppm	ASTM D5185m	4000	1224	3511	3423
Oxidation	Abs/.1mm	*ASTM D7414	>25	46.3	22.0	18.4
Base Number (BN)	mg KOH/g	ASTM D2896	10.3	▲ 1.5	3.5	5.7
Visc @ 100°C	cSt	ASTM D445	11.9	▲ 14.8	12.2	11.8



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0816632
Lab Number : 05916595
Unique Number : 10588509
Test Package : FLEET
Received : 04 Aug 2023
Tested : 08 Aug 2023
Diagnosed : 08 Aug 2023 - Jonathan Hester

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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)