



OIL ANALYSIS REPORT

WEAR	ATTENTION
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Machine Id
72226
Component
Diesel Engine
Fluid
CHEVRON DELO 400 MULTIGRADE 15W40 (--- GAL)

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. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0921164	WC0681067	WC0680986
Sample Date		Client Info		12 Jun 2024	21 Apr 2024	27 Jan 2024
Machine Age	hrs	Client Info		5202	4631	3221
Oil Age	hrs	Client Info		571	667	625
Filter Age	hrs	Client Info		571	667	625
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	51	84	26
Chromium	ppm	ASTM D5185m	>20	2	2	1
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m		16	17	17
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	13	11	5
Lead	ppm	ASTM D5185m	>40	7	3	3
Copper	ppm	ASTM D5185m	>330	2	<1	1
Tin	ppm	ASTM D5185m	>15	0	<1	<1
Vanadium	ppm	ASTM D5185m		<1	<1	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

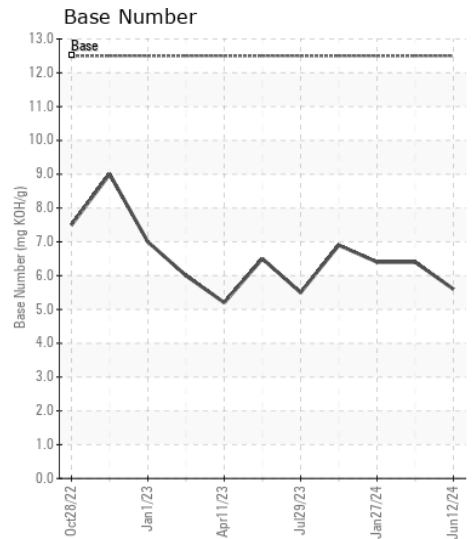
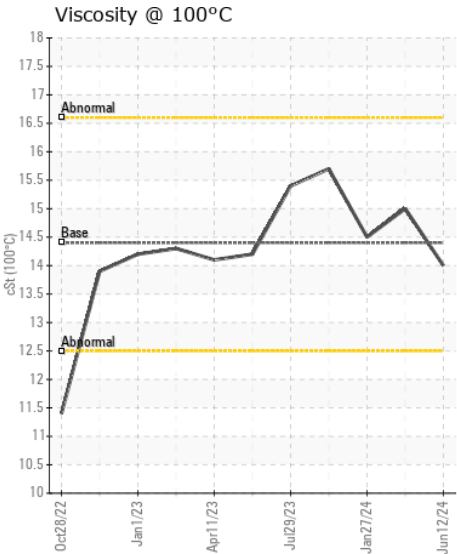
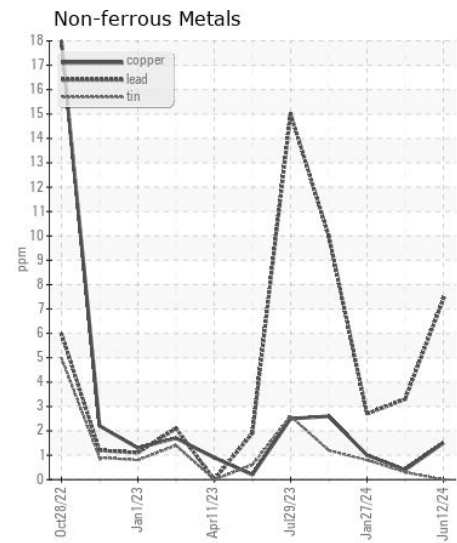
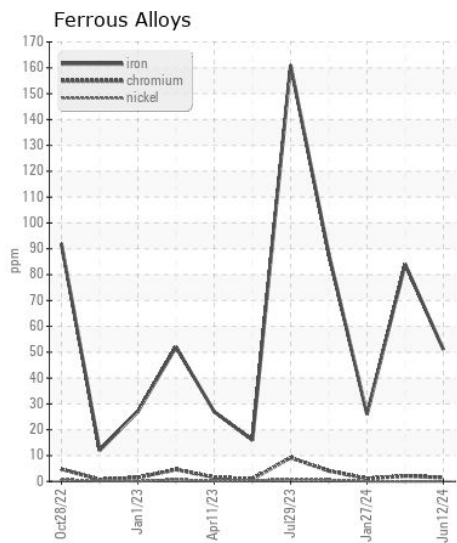
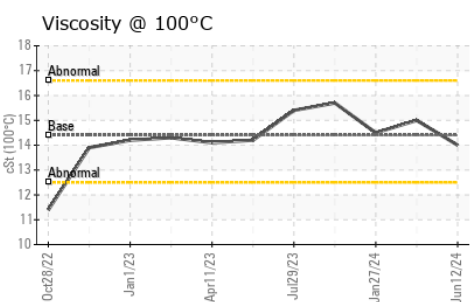
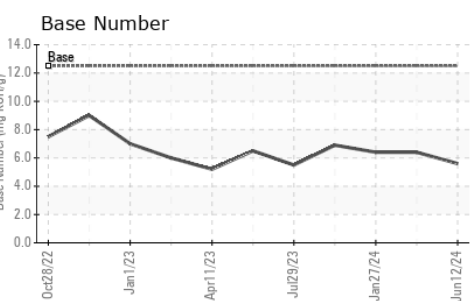
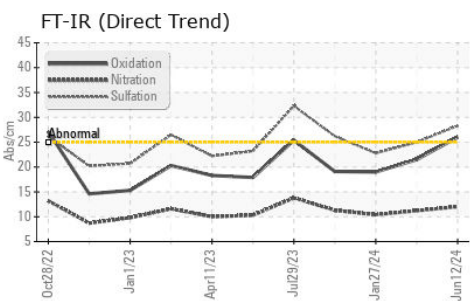
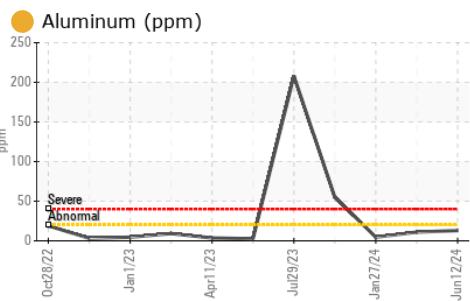
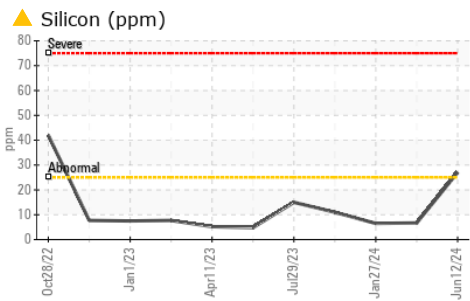
Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

Silicon	ppm	ASTM D5185m	>25	▲ 27	7	6
Potassium	ppm	ASTM D5185m	>20	11	7	4
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	1.1	0.9	0.6
Nitration	Abs/cm	*ASTM D7624	>20	12.0	11.2	10.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	28.3	25.0	22.8
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 condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		5	5	4
Boron	ppm	ASTM D5185m	151	38	48	45
Barium	ppm	ASTM D5185m	0.4	0	0	0
Molybdenum	ppm	ASTM D5185m	250	32	30	30
Manganese	ppm	ASTM D5185m		1	1	<1
Magnesium	ppm	ASTM D5185m	0	791	813	772
Calcium	ppm	ASTM D5185m	2046	1834	1605	1523
Phosphorus	ppm	ASTM D5185m	1043	758	768	731
Zinc	ppm	ASTM D5185m	943	912	867	844
Sulfur	ppm	ASTM D5185m	5012	3488	3244	2967
Oxidation	Abs/.1mm	*ASTM D7414	>25	26.0	21.5	19.0
Base Number (BN)	mg KOH/g	ASTM D2896	12.5	5.6	6.4	6.4
Visc @ 100°C	cSt	ASTM D445	14.4	14.0	15.0	14.5



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0921164
Lab Number : 06219168
Unique Number : 11097365
Test Package : FLEET
Received : 24 Jun 2024
Tested : 25 Jun 2024
Diagnosed : 26 Jun 2024 - 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)