



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	ABNORMAL

Machine Id
WESTERN STAR 72217
Component
Diesel Engine
Fluid
CHEVRON DELO 400 XLE 15W40 (14 GAL)

RECOMMENDATION

We advise that you check for possible 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		WC0681115	WC0681098	WC0680965
Sample Date		Client Info		27 Jan 2024	26 Jul 2023	26 Jul 2023
Machine Age	hrs	Client Info		548	5128	5128
Oil Age	hrs	Client Info		548	949	949
Filter Age	hrs	Client Info		548	949	949
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	SEVERE	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	69	37	21
Chromium	ppm	ASTM D5185m	>20	3	1	1
Nickel	ppm	ASTM D5185m	>4	0	2	<1
Titanium	ppm	ASTM D5185m		17	16	15
Silver	ppm	ASTM D5185m	>3	<1	<1	<1
Aluminum	ppm	ASTM D5185m	>20	4	8	2
Lead	ppm	ASTM D5185m	>40	3	3	2
Copper	ppm	ASTM D5185m	>330	3	2	2
Tin	ppm	ASTM D5185m	>15	1	<1	2
Vanadium	ppm	ASTM D5185m		<1	<1	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

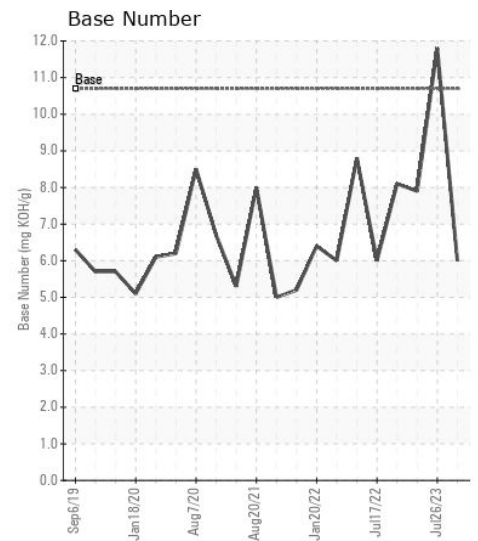
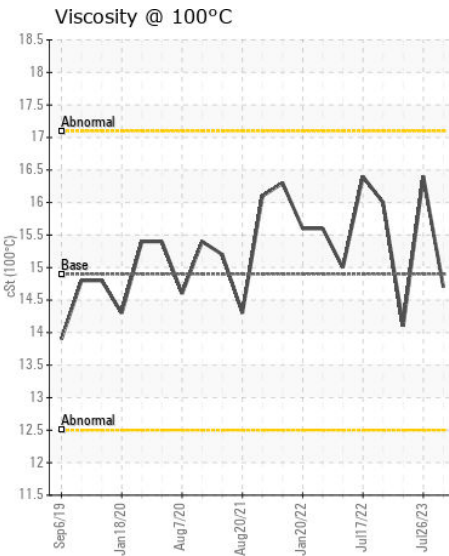
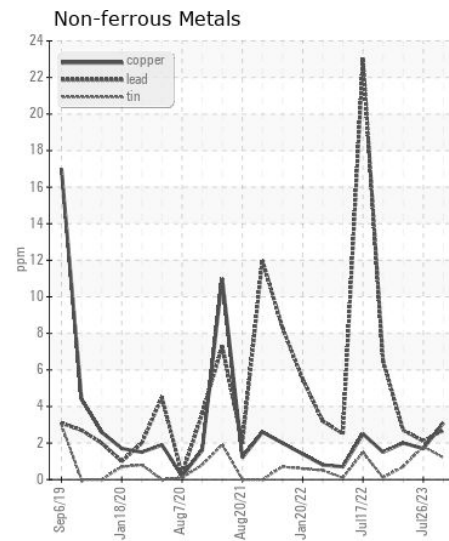
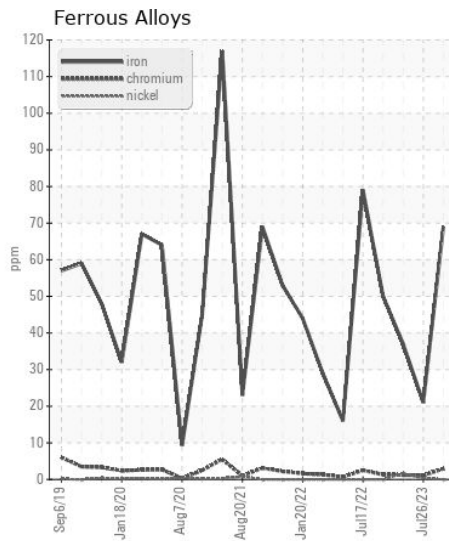
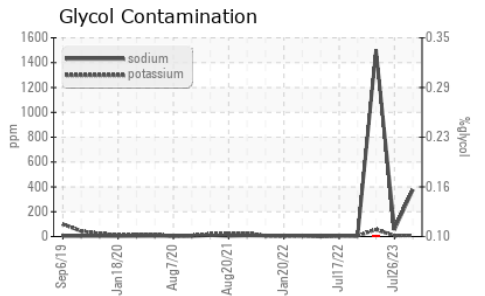
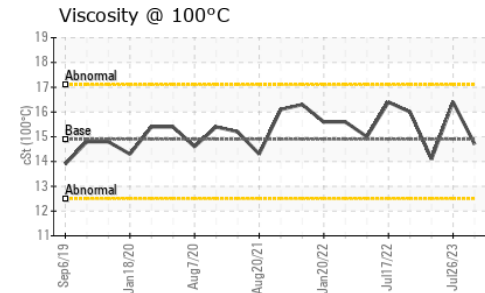
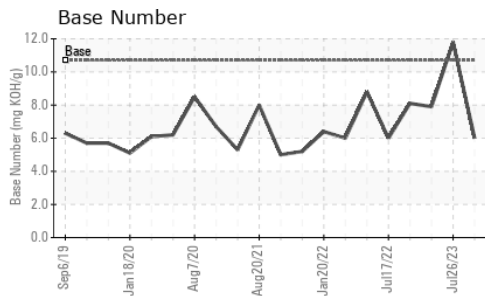
Sodium and/or potassium levels remain high.

Silicon	ppm	ASTM D5185m	>25	18	12	7
Potassium	ppm	ASTM D5185m	>20	9	▲ 56	8
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol	%	*ASTM D2982		NEG	● 0.10	NEG
Soot %	%	*ASTM D7844	>3	1.9	1.3	0.5
Nitration	Abs/cm	*ASTM D7624	>20	13.3	13.3	8.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	29.1	22.7	18.7
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.

Sodium	ppm	ASTM D5185m		▲ 377	▲ 1498	56
Boron	ppm	ASTM D5185m		28	▲ 16	55
Barium	ppm	ASTM D5185m		0	4	44
Molybdenum	ppm	ASTM D5185m		78	▲ 242	35
Manganese	ppm	ASTM D5185m		1	<1	1
Magnesium	ppm	ASTM D5185m		786	703	672
Calcium	ppm	ASTM D5185m		1555	1454	1377
Phosphorus	ppm	ASTM D5185m	760	751	694	640
Zinc	ppm	ASTM D5185m	830	855	839	773
Sulfur	ppm	ASTM D5185m	2770	2946	3133	3135
Oxidation	Abs/.1mm	*ASTM D7414	>25	22.3	15.2	13.2
Base Number (BN)	mg KOH/g	ASTM D2896	10.7	6.0	11.8	7.9
Visc @ 100°C	cSt	ASTM D445	14.9	14.7	16.4	14.1



Certificate L2367

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

Sample No. : WC0681115

Lab Number : 06089358

Unique Number : 10876803

Test Package : FLEET

Received : 14 Feb 2024

Tested : 16 Feb 2024

Diagnosed : 16 Feb 2024 - Jonathan Hester

NANA LYNDEN LOGISTICS

P.O. BOX 570

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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)