



WEAR CHECK

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	SEVERE
FLUID CONDITION	ABNORMAL

Machine Id
3499
Component
Diesel Engine
Fluid
SHELL 10W30 (--- QTS)

RECOMMENDATION

We advise that you check for the source of the coolant leak. We recommend an early resample to monitor this condition. Please specify the component make and model with your next sample.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0878617	WC0878529	WC0822923
Sample Date		Client Info		01 Mar 2024	14 Dec 2023	09 Aug 2023
Machine Age	mls	Client Info		449271	439839	424870
Oil Age	mls	Client Info		10000	15369	23024
Filter Age	mls	Client Info		10000	15369	23024
Oil Changed		Client Info		Changed	Changed	N/A
Filter Changed		Client Info		Changed	Changed	N/A
Sample Status				SEVERE	ABNORMAL	ABNORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	57	52	27
Chromium	ppm	ASTM D5185m	>20	2	2	<1
Nickel	ppm	ASTM D5185m	>4	<1	<1	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	21	22	13
Lead	ppm	ASTM D5185m	>40	<1	0	0
Copper	ppm	ASTM D5185m	>330	1	2	<1
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

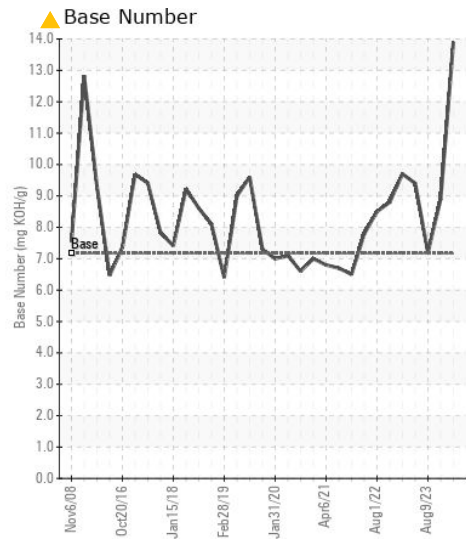
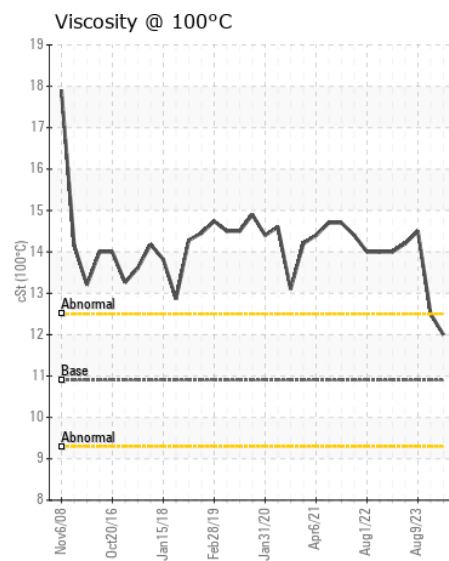
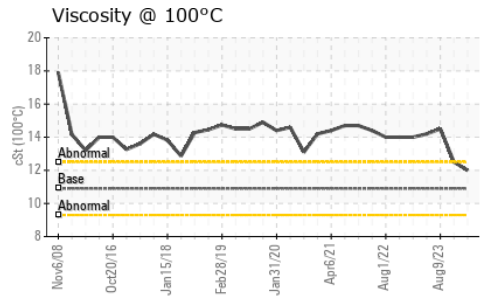
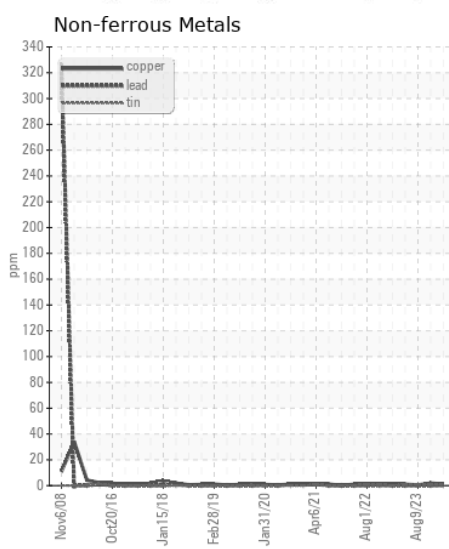
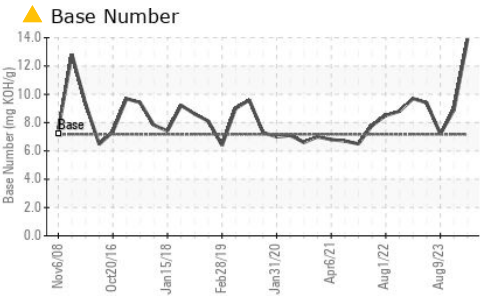
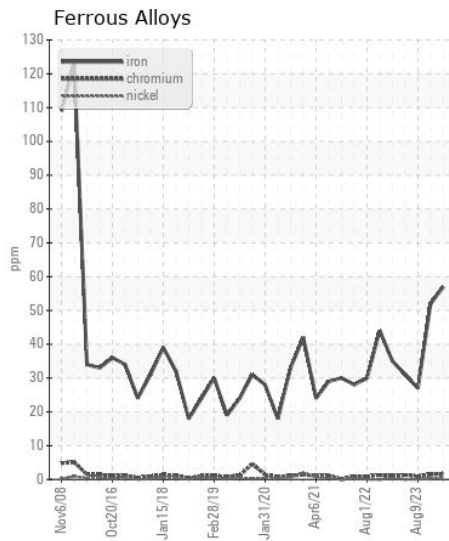
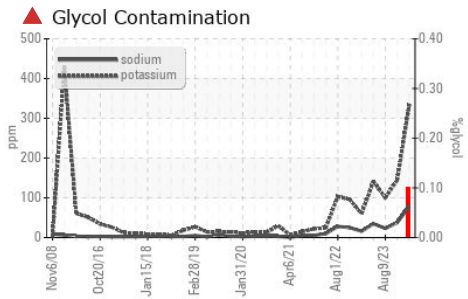
Test for glycol is positive. There is a high concentration of glycol present in the oil.

Silicon	ppm	ASTM D5185m	>25	8	5	5
Potassium	ppm	ASTM D5185m	>20	330	144	100
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol	%	*ASTM D2982		0.10	NEG	NEG
Soot %	%	*ASTM D7844	>3	1.5	2.4	0.9
Nitration	Abs/cm	*ASTM D7624	>20	9.6	12.2	9.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	21.2	25.2	20.6
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 BN result is higher than normal. The oil is no longer serviceable as a result of the abnormal and/or severe wear. The oil is no longer serviceable due to the presence of contaminants.

Sodium	ppm	ASTM D5185m		78	38	23
Boron	ppm	ASTM D5185m		21	4	14
Barium	ppm	ASTM D5185m		0	<1	0
Molybdenum	ppm	ASTM D5185m		99	75	31
Manganese	ppm	ASTM D5185m		<1	1	<1
Magnesium	ppm	ASTM D5185m	470	1053	910	134
Calcium	ppm	ASTM D5185m	1150	1162	1241	2347
Phosphorus	ppm	ASTM D5185m	94	1168	1103	968
Zinc	ppm	ASTM D5185m	1030	1364	1314	1205
Sulfur	ppm	ASTM D5185m		3608	2936	4085
Oxidation	Abs/.1mm	*ASTM D7414	>25	15.7	17.9	13.5
Base Number (BN)	mg KOH/g	ASTM D2896	7.17	13.9	8.9	7.2
Visc @ 100°C	cSt	ASTM D445	10.90	12.0	12.5	14.5



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0878617 **Received** : 18 Mar 2024
Lab Number : 06121462 **Tested** : 20 Mar 2024
Unique Number : 10930295 **Diagnosed** : 20 Mar 2024 - Angela Borella
Test Package : FLEET (Additional Tests: Glycol)

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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)