OIL ANALYSIS REPORT

WEAR	SEVERE
CONTAMINATION	SEVERE
FLUID CONDITION	ATTENTION

Machine Id
DFGS272528
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 40 (--- QTS)

RECOMMENDATION

Check for low coolant level. We advise that you check for the source of the coolant leak. We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. We recommend that you drain the oil and perform a filter service on this component if not already done. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.

WEAR

Cylinder, crank, or cam shaft wear is indicated.

CONTAMINATION

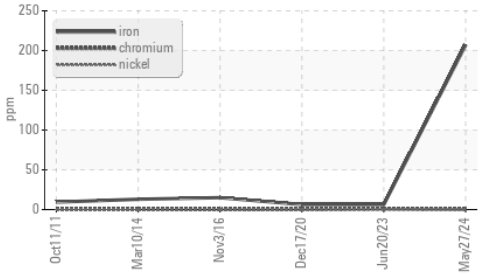
Sodium and/or potassium levels are high. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

FLUID CONDITION

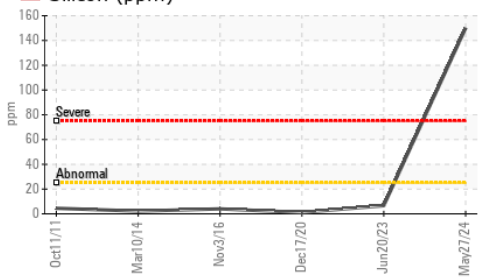
The oil is no longer serviceable due to the presence of contaminants.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		**WC0911184**	WC0814641	WC0526091
Sample Date		Client Info		**27 May 2024**	20 Jun 2023	17 Dec 2020
Machine Age	hrs	Client Info		**17321**	0	13732
Oil Age	hrs	Client Info		**0**	0	0
Filter Age	hrs	Client Info		**0**	0	0
Oil Changed		Client Info		**N/A**	Changed	Changed
Filter Changed		Client Info		**N/A**	Changed	Changed
Sample Status				**SEVERE**	NORMAL	NORMAL
Iron	ppm	ASTM D5185m	>100	▲ **207**	6	6
Chromium	ppm	ASTM D5185m	>20	**<1**	<1	<1
Nickel	ppm	ASTM D5185m	>4	**<1**	<1	0
Titanium	ppm	ASTM D5185m		**4**	<1	<1
Silver	ppm	ASTM D5185m	>3	**0**	0	0
Aluminum	ppm	ASTM D5185m	>20	● **61**	4	0
Lead	ppm	ASTM D5185m	>40	**1**	<1	<1
Copper	ppm	ASTM D5185m	>330	**2**	<1	<1
Tin	ppm	ASTM D5185m	>15	**<1**	<1	<1
Vanadium	ppm	ASTM D5185m		**<1**	0	0
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silicon	ppm	ASTM D5185m	>25	▲ **150**	7	1
Potassium	ppm	ASTM D5185m	>20	▲ **22**	2	2
Fuel		WC Method	>5	**<1.0**	<1.0	<1.0
Water		WC Method	>0.2	**NEG**	NEG	NEG
Glycol	%	*ASTM D2982		**NEG**	NEG	NEG
Soot %	%	*ASTM D7844	>3	**0.1**	0.1	0.2
Nitration	Abs/cm	*ASTM D7624	>20	**5.9**	9.2	9.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	**19.6**	22.0	23.3
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
Sodium	ppm	ASTM D5185m	>216	● **128**	6	6
Boron	ppm	ASTM D5185m	250	**321**	388	262
Barium	ppm	ASTM D5185m	10	**0**	0	<1
Molybdenum	ppm	ASTM D5185m	100	**71**	86	115
Manganese	ppm	ASTM D5185m		**2**	<1	<1
Magnesium	ppm	ASTM D5185m	450	**425**	387	541
Calcium	ppm	ASTM D5185m	3000	**1515**	1557	1603
Phosphorus	ppm	ASTM D5185m	1150	**1022**	1063	753
Zinc	ppm	ASTM D5185m	1350	**1230**	1384	929
Sulfur	ppm	ASTM D5185m	4250	**3890**	4065	2267
Oxidation	Abs/.1mm	*ASTM D7414	>25	**14.1**	18.5	22
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	**9.9**	7.6	7.9
Visc @ 100°C	cSt	ASTM D445	14.4	**14.1**	13.8	14.2

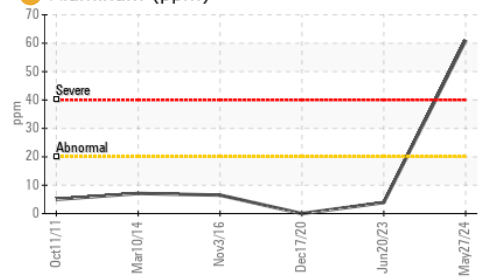
Ferrous Alloys



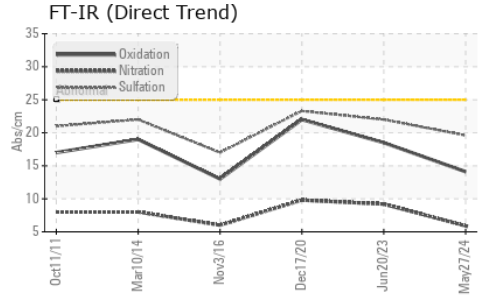
Silicon (ppm)



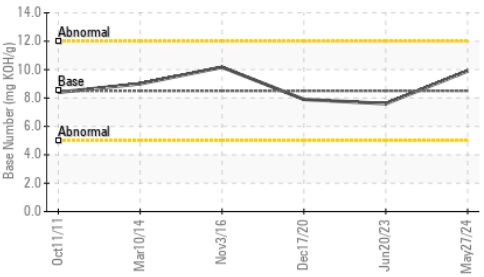
Aluminum (ppm)



FT-IR (Direct Trend)



Base Number



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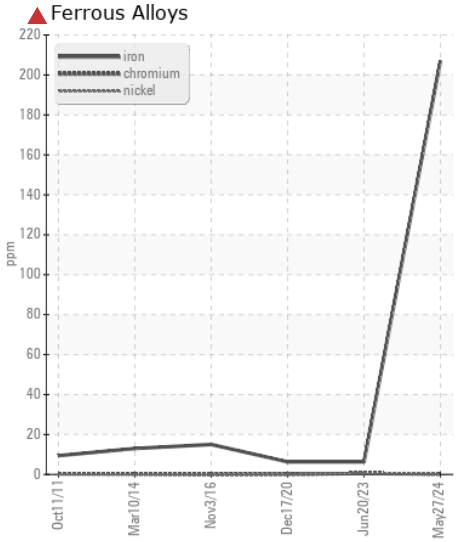
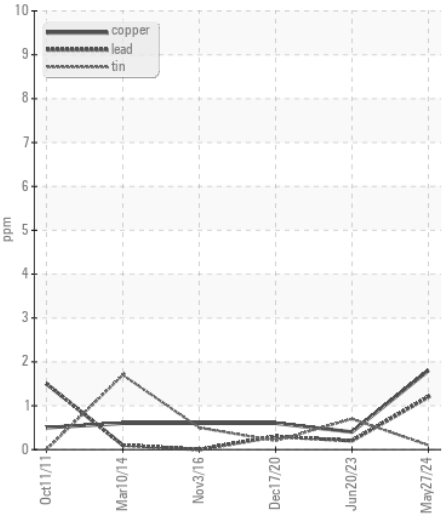
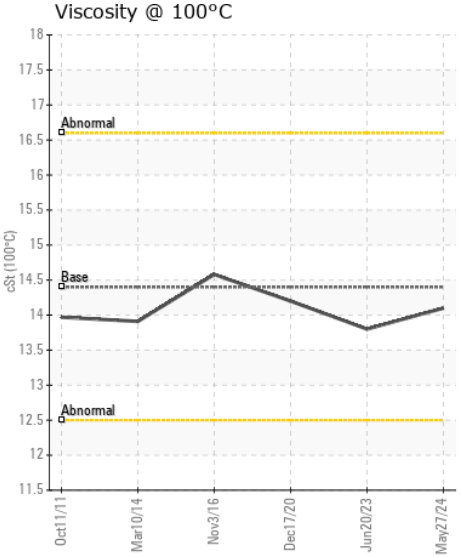


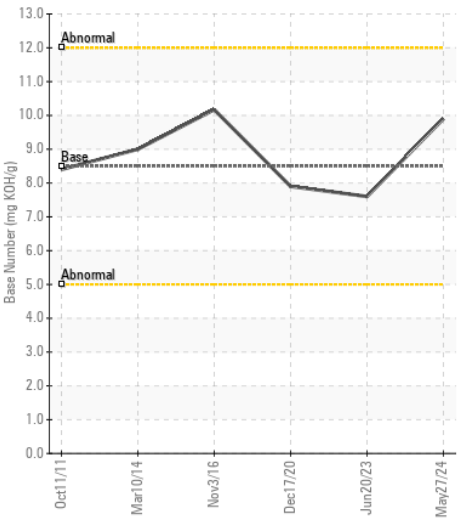
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory	: WearCheck USA - 501 Madison Ave., Cary, NC 27513		
Sample No.	: WC0911184	**Received**	: 17 Jul 2024
Lab Number	: 06239744	**Tested**	: 19 Jul 2024
Unique Number	: 11128578	**Diagnosed**	: 19 Jul 2024 - Sean Felton
Test Package	: FLEET (Additional Tests: Glycol)		

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)

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