



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	ATTENTION

Machine Id
8532
 Component
Diesel Engine
 Fluid
DIESEL ENGINE OIL SAE 15W40 (--- QTS)

RECOMMENDATION

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0870730	WC0773012	---
Sample Date		Client Info		20 Nov 2023	23 Jan 2023	---
Machine Age	mls	Client Info		0	4188	---
Oil Age	mls	Client Info		0	0	---
Filter Age	mls	Client Info		0	0	---
Oil Changed		Client Info		Not Changd	Not Changd	---
Filter Changed		Client Info		Not Changd	Not Changd	---
Sample Status				ABNORMAL	ATTENTION	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	94	68	---
Chromium	ppm	ASTM D5185m	>20	3	2	---
Nickel	ppm	ASTM D5185m	>4	<1	<1	---
Titanium	ppm	ASTM D5185m		<1	<1	---
Silver	ppm	ASTM D5185m	>3	0	0	---
Aluminum	ppm	ASTM D5185m	>20	23	17	---
Lead	ppm	ASTM D5185m	>40	<1	<1	---
Copper	ppm	ASTM D5185m	>330	77	77	---
Tin	ppm	ASTM D5185m	>15	<1	1	---
Vanadium	ppm	ASTM D5185m		<1	<1	---
White Metal	scalar	*Visual	NONE	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	---

CONTAMINATION

Fuel content negligible. Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. Elemental level of silicon (Si) above normal indicating ingress of seal material.

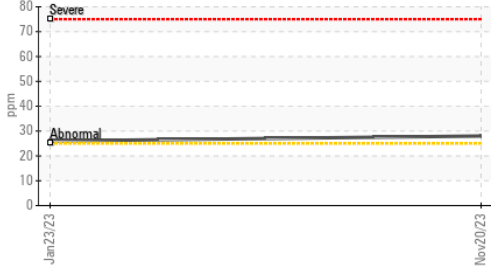
Silicon	ppm	ASTM D5185m	>25	▲ 28	26	---
Potassium	ppm	ASTM D5185m	>20	82	53	---
Fuel		WC Method	>5	<1.0	1.6	---
Water		WC Method	>0.2	NEG	NEG	---
Glycol		WC Method		NEG	NEG	---
Soot %	%	*ASTM D7844	>3	0.4	0.2	---
Nitration	Abs/cm	*ASTM D7624	>20	12.1	10.7	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	22.6	20.3	---
Silt	scalar	*Visual	NONE	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	---
Appearance	scalar	*Visual	NORML	NORML	NORML	---
Odor	scalar	*Visual	NORML	NORML	NORML	---
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	---

FLUID CONDITION

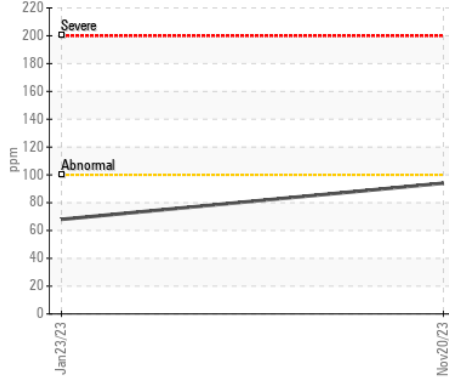
The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

Sodium	ppm	ASTM D5185m	>158	6	7	---
Boron	ppm	ASTM D5185m	250	22	36	---
Barium	ppm	ASTM D5185m	10	6	9	---
Molybdenum	ppm	ASTM D5185m	100	52	47	---
Manganese	ppm	ASTM D5185m		5	4	---
Magnesium	ppm	ASTM D5185m	450	733	758	---
Calcium	ppm	ASTM D5185m	3000	1294	1217	---
Phosphorus	ppm	ASTM D5185m	1150	658	671	---
Zinc	ppm	ASTM D5185m	1350	866	872	---
Sulfur	ppm	ASTM D5185m	4250	2214	2653	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	21.4	18.9	---
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	5.8	7.0	---
Visc @ 100°C	cSt	ASTM D445	14.4	▲ 11.6	▲ 11.5	---

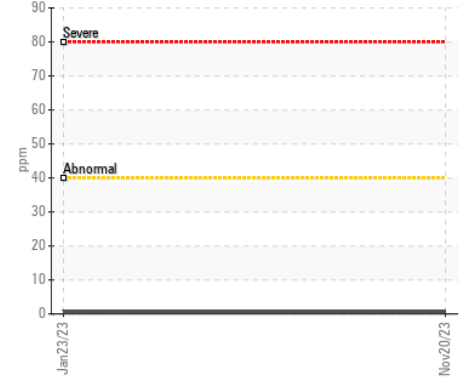
▲ Silicon (ppm)



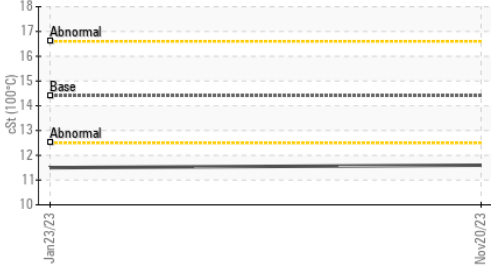
Iron (ppm)



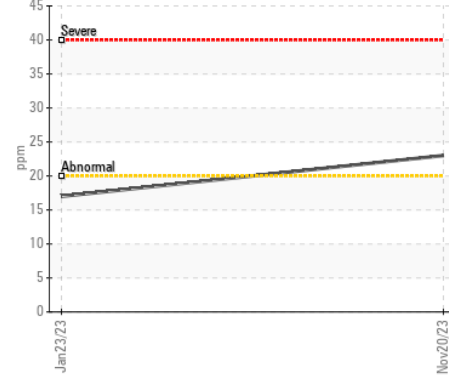
Lead (ppm)



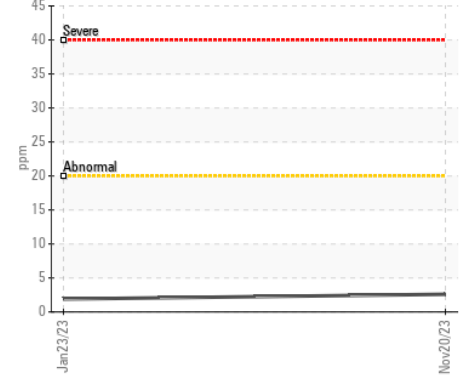
▲ Viscosity @ 100°C



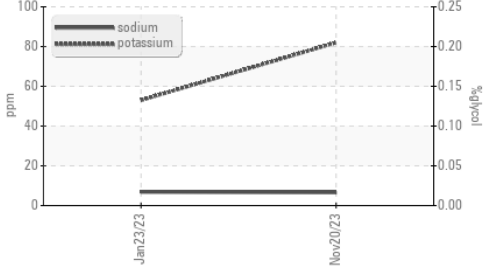
Aluminum (ppm)



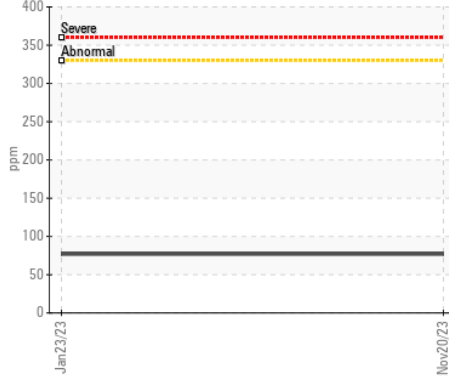
Chromium (ppm)



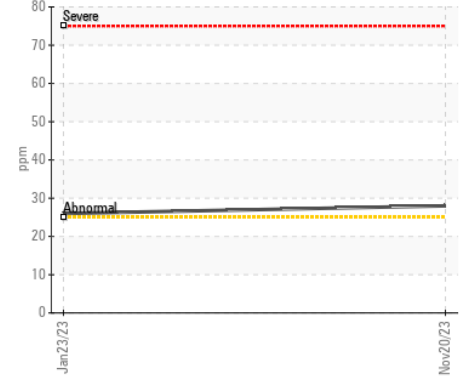
Glycol Contamination



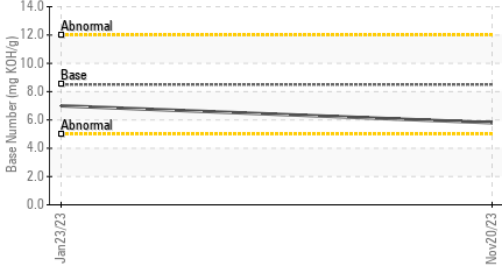
Copper (ppm)



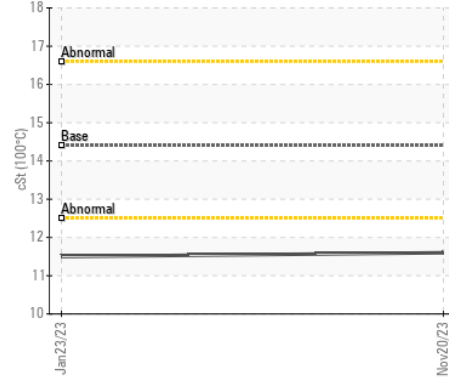
▲ Silicon (ppm)



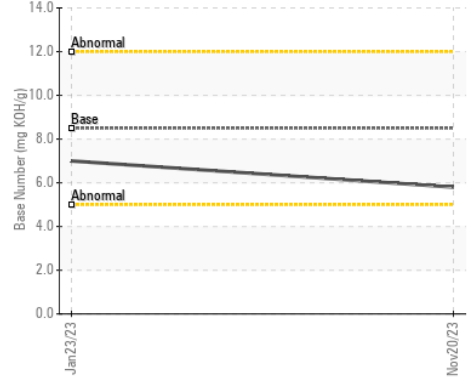
Base Number



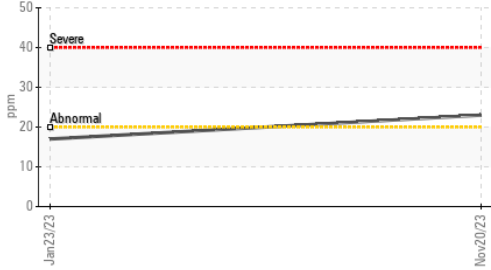
▲ Viscosity @ 100°C



Base Number



Aluminum (ppm)



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0870730 **Received** : 16 Jan 2024
Lab Number : 06061752 **Diagnosed** : 18 Jan 2024
Unique Number : 10833134 **Diagnostician** : Don Baldrige
Test Package : MOB 1 (Additional Tests: TBN)

WAKE COUNTY PUBLIC SCHOOL SYSTEM
 1551 ROCK QUARRY ROAD
 RALEIGH, NC
 US 27610
 Contact: DEVIN WEBER
 dweber@wcpss.net
 T: (919)856-8076
 F: x:

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)