



# OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Machine Id  
**54215**  
 Component  
**Diesel Engine**  
 Fluid  
**DIESEL ENGINE OIL 10W40 (--- QTS)**

## RECOMMENDATION

No corrective action is recommended at this time. 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		<b>WC0913630</b>	WC0857026	---
Sample Date		Client Info		<b>17 Apr 2024</b>	20 Nov 2023	---
Machine Age	hrs	Client Info		<b>507</b>	295	---
Oil Age	hrs	Client Info		<b>250</b>	250	---
Filter Age	hrs	Client Info		<b>250</b>	250	---
Oil Changed		Client Info		<b>Changed</b>	Changed	---
Filter Changed		Client Info		<b>Changed</b>	Changed	---
Sample Status				<b>ABNORMAL</b>	NORMAL	---

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>30</b>	23	---
Chromium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	<1	---
Nickel	ppm	ASTM D5185m	>4	<b>0</b>	0	---
Titanium	ppm	ASTM D5185m		<b>0</b>	<1	---
Silver	ppm	ASTM D5185m	>3	<b>0</b>	0	---
Aluminum	ppm	ASTM D5185m	>20	<b>2</b>	2	---
Lead	ppm	ASTM D5185m	>40	<b>0</b>	<1	---
Copper	ppm	ASTM D5185m	>330	<b>3</b>	9	---
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</b>	0	---
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	---
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	---

## CONTAMINATION

Moderate concentration of visible dirt/debris present in the oil.

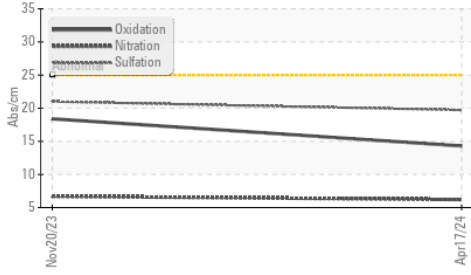
Silicon	ppm	ASTM D5185m	>25	<b>7</b>	8	---
Potassium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	<1	---
Fuel	%	ASTM D3524	>5	<b>&lt;1.0</b>	<1.0	---
Water		WC Method	>0.2	<b>NEG</b>	NEG	---
Glycol		WC Method		<b>NEG</b>	NEG	---
Soot %	%	*ASTM D7844	>3	<b>0.1</b>	0.1	---
Nitration	Abs/cm	*ASTM D7624	>20	<b>6.2</b>	6.7	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>19.7</b>	21.0	---
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Debris	scalar	*Visual	NONE	<b>MODER</b>	NONE	---
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	---
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	---
Emulsified Water	scalar	*Visual	>0.2	<b>NEG</b>	NEG	---

## FLUID CONDITION

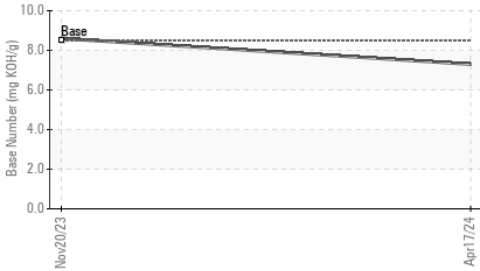
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<b>2</b>	3	---
Boron	ppm	ASTM D5185m	250	<b>401</b>	118	---
Barium	ppm	ASTM D5185m	10	<b>2</b>	0	---
Molybdenum	ppm	ASTM D5185m	100	<b>81</b>	58	---
Manganese	ppm	ASTM D5185m		<b>2</b>	2	---
Magnesium	ppm	ASTM D5185m	450	<b>412</b>	360	---
Calcium	ppm	ASTM D5185m	3000	<b>1420</b>	1888	---
Phosphorus	ppm	ASTM D5185m	1150	<b>1042</b>	837	---
Zinc	ppm	ASTM D5185m	1350	<b>1218</b>	1182	---
Sulfur	ppm	ASTM D5185m	4250	<b>3730</b>	3635	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>14.3</b>	18.4	---
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	<b>7.3</b>	8.6	---
Visc @ 100°C	cSt	ASTM D445	14.4	<b>12.2</b>	12.7	---

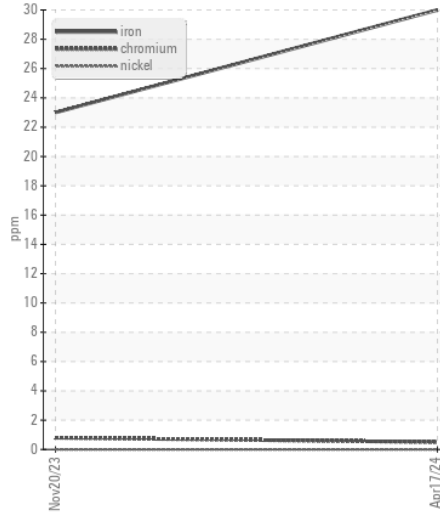
FT-IR (Direct Trend)



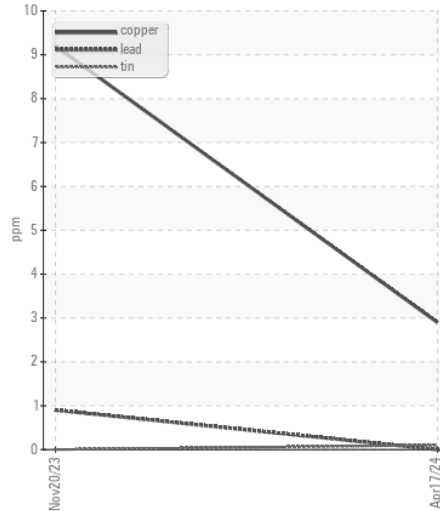
Base Number



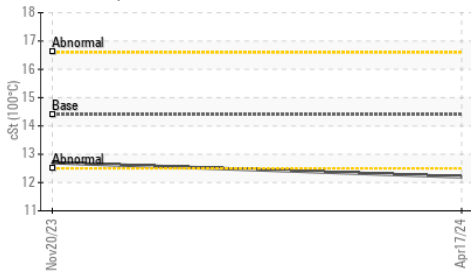
Ferrous Alloys



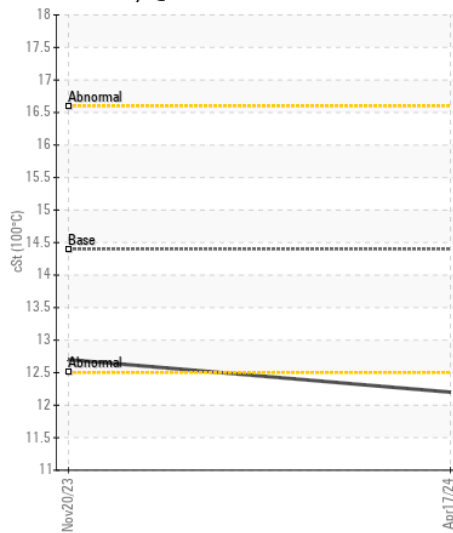
Non-ferrous Metals



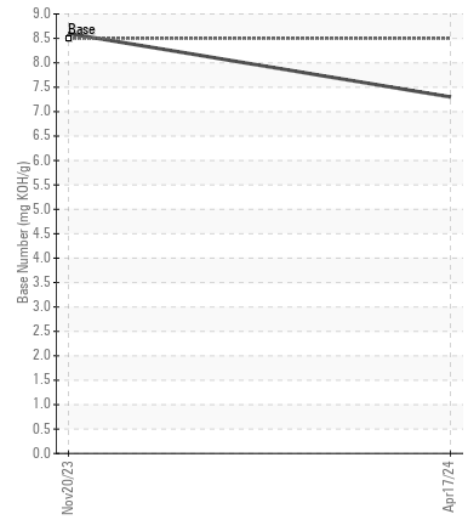
Viscosity @ 100°C



Viscosity @ 100°C



Base Number



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0913630 **Received** : 22 Apr 2024  
**Lab Number** : 06155599 **Tested** : 23 Apr 2024  
**Unique Number** : 10991022 **Diagnosed** : 24 Apr 2024 - Sean Felton  
**Test Package** : CONST ( Additional Tests: FuelDilution, TBN )

**SULLIVAN EASTERN INC**  
 2860 C SLATER RD  
 MORRISVILLE, NC  
 US 27560

Contact: SCOTT SULLIVAN  
 ssullivan@sullivan-eastern.com

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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