



# WEAR CHECK

## OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id  
**10**  
Component  
**Diesel Engine**  
Fluid  
**DIESEL ENGINE OIL SAE 15W40 (--- GAL)**

### RECOMMENDATION

Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>KL0013290</b>	KL0013238	KL0013225
Sample Date		Client Info		<b>15 Jan 2024</b>	11 Oct 2023	30 Aug 2023
Machine Age	mls	Client Info		<b>82669</b>	82447	715932
Oil Age	mls	Client Info		<b>0</b>	0	0
Filter Age	mls	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>N/A</b>	N/A	N/A
Filter Changed		Client Info		<b>N/A</b>	N/A	N/A
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

### WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>28</b>	31	34
Chromium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>2	<b>0</b>	<1	0
Titanium	ppm	ASTM D5185m	>2	<b>0</b>	<1	0
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>25	<b>2</b>	2	2
Lead	ppm	ASTM D5185m	>40	<b>1</b>	2	3
Copper	ppm	ASTM D5185m	>330	<b>14</b>	18	21
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</b>	<1	<1
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

### CONTAMINATION

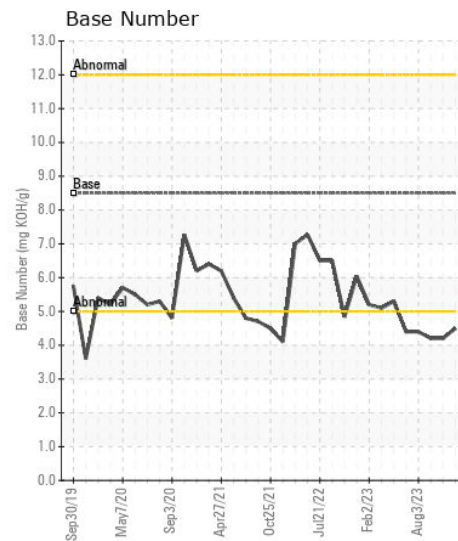
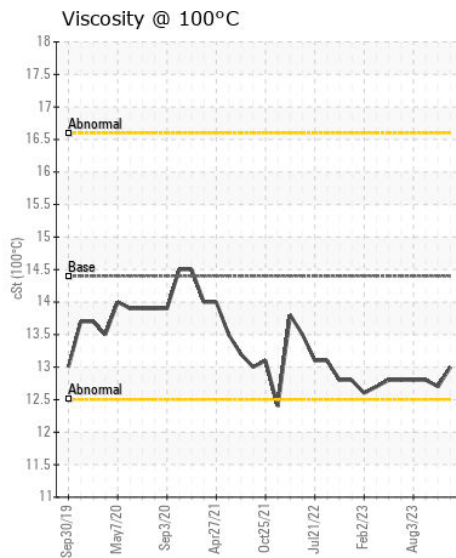
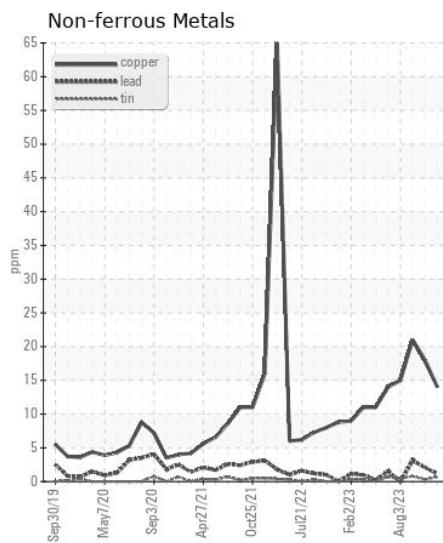
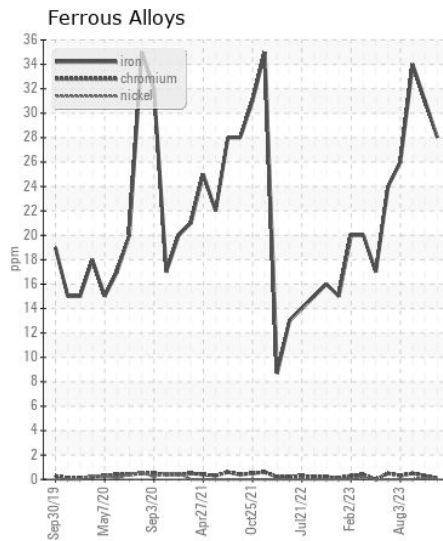
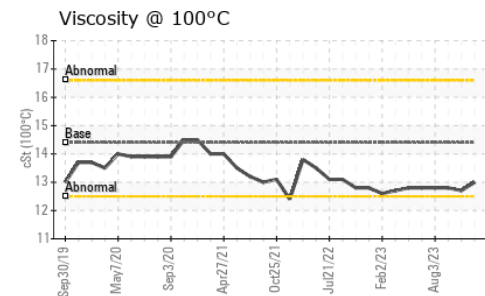
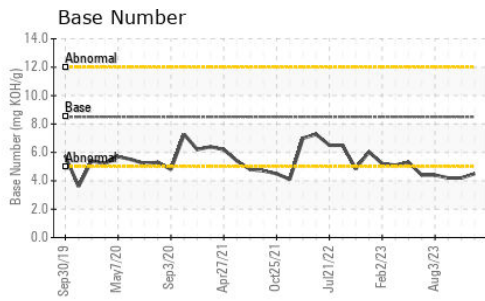
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>3</b>	3	4
Potassium	ppm	ASTM D5185m	>20	<b>0</b>	3	5
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.5</b>	0.5	0.5
Nitration	Abs/cm	*ASTM D7624	>20	<b>9.7</b>	9.3	8.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>23.5</b>	23.4	22.2
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	<b>NEG</b>	NEG	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	>158	<b>3</b>	<1	7
Boron	ppm	ASTM D5185m	250	<b>64</b>	74	105
Barium	ppm	ASTM D5185m	10	<b>0</b>	3	0
Molybdenum	ppm	ASTM D5185m	100	<b>58</b>	57	66
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	0	1
Magnesium	ppm	ASTM D5185m	450	<b>60</b>	57	66
Calcium	ppm	ASTM D5185m	3000	<b>1869</b>	1947	2202
Phosphorus	ppm	ASTM D5185m	1150	<b>957</b>	830	1019
Zinc	ppm	ASTM D5185m	1350	<b>1111</b>	1053	1225
Sulfur	ppm	ASTM D5185m	4250	<b>4114</b>	4473	4847
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>17.3</b>	17.4	16.1
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	<b>4.5</b>	4.2	4.2
Visc @ 100°C	cSt	ASTM D445	14.4	<b>13.0</b>	12.7	12.8



Certificate L2367

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

**Sample No.** : KL0013290

**Lab Number** : 06082940

**Unique Number** : 10870385

**Test Package** : FLEET

**Received** : 07 Feb 2024

**Tested** : 08 Feb 2024

**Diagnosed** : 08 Feb 2024 - Wes Davis

**UNITED SALT**

1434 POTASH MINES RD

CARLSBAD, NM

US 88220

Contact: GERALD GOAD

ggoad@unitedsalt.com

T:

F:

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)