



# OIL ANALYSIS REPORT

WEAR	<b>NORMAL</b>
CONTAMINATION	<b>NORMAL</b>
FLUID CONDITION	<b>NORMAL</b>

Machine Id  
**JW3461**  
Component  
**Diesel Engine**  
Fluid  
**DIESEL ENGINE OIL SAE 15W40 (--- QTS)**

## RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>WC0945841</b>	WC0903129	WC0787809
Sample Date		Client Info		<b>24 Jun 2024</b>	23 Apr 2024	11 Aug 2023
Machine Age	mls	Client Info		<b>149943</b>	148543	0
Oil Age	mls	Client Info		<b>10000</b>	60000	0
Filter Age	mls	Client Info		<b>10000</b>	60000	0
Oil Changed		Client Info		<b>Changed</b>	Changed	N/A
Filter Changed		Client Info		<b>Changed</b>	Changed	N/A
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>8</b>	23	51
Chromium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	0	1
Nickel	ppm	ASTM D5185m	>4	<b>&lt;1</b>	0	<1
Titanium	ppm	ASTM D5185m		<b>1</b>	6	<1
Silver	ppm	ASTM D5185m	>3	<b>&lt;1</b>	0	<1
Aluminum	ppm	ASTM D5185m	>20	<b>4</b>	6	4
Lead	ppm	ASTM D5185m	>40	<b>&lt;1</b>	<1	<1
Copper	ppm	ASTM D5185m	>330	<b>&lt;1</b>	0	2
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</b>	0	<1
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1
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.

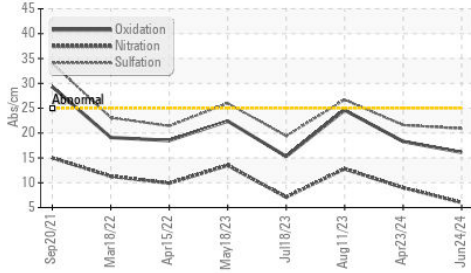
Silicon	ppm	ASTM D5185m	>25	<b>6</b>	8	14
Potassium	ppm	ASTM D5185m	>20	<b>3</b>	3	6
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.1</b>	0.3	1
Nitration	Abs/cm	*ASTM D7624	>20	<b>6.0</b>	9.0	12.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>20.9</b>	21.6	26.7
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

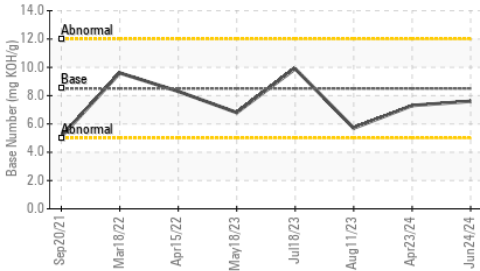
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>158	<b>&lt;1</b>	<1	4
Boron	ppm	ASTM D5185m	250	<b>377</b>	226	0
Barium	ppm	ASTM D5185m	10	<b>&lt;1</b>	0	0
Molybdenum	ppm	ASTM D5185m	100	<b>86</b>	61	67
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	0	1
Magnesium	ppm	ASTM D5185m	450	<b>424</b>	682	1041
Calcium	ppm	ASTM D5185m	3000	<b>1328</b>	1621	1179
Phosphorus	ppm	ASTM D5185m	1150	<b>906</b>	1010	1008
Zinc	ppm	ASTM D5185m	1350	<b>1074</b>	1216	1294
Sulfur	ppm	ASTM D5185m	4250	<b>2636</b>	4139	3596
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>16.1</b>	18.3	24.6
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	<b>7.6</b>	7.3	5.7
Visc @ 100°C	cSt	ASTM D445	14.4	<b>13.3</b>	12.8	13.2

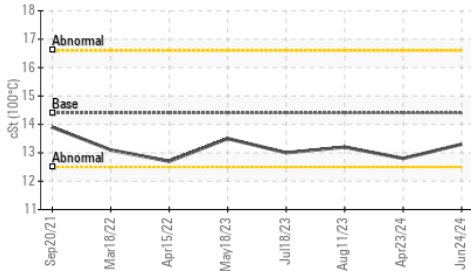
**FT-IR (Direct Trend)**



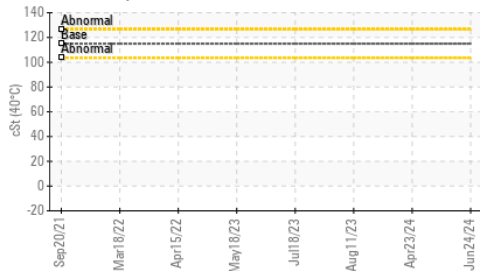
**Base Number**



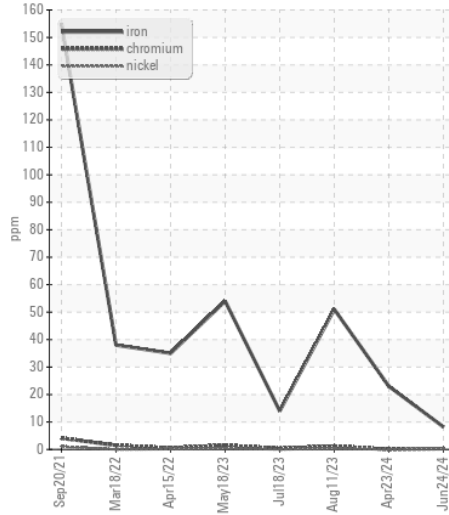
**Viscosity @ 100°C**



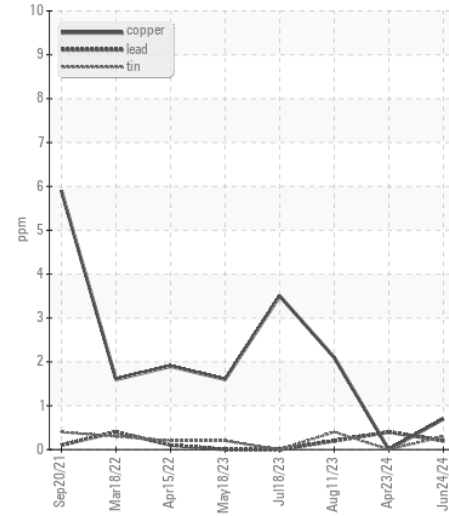
**Viscosity @ 40°C**



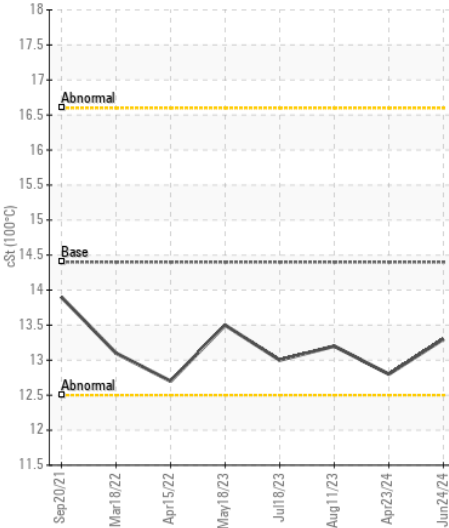
**Ferrous Alloys**



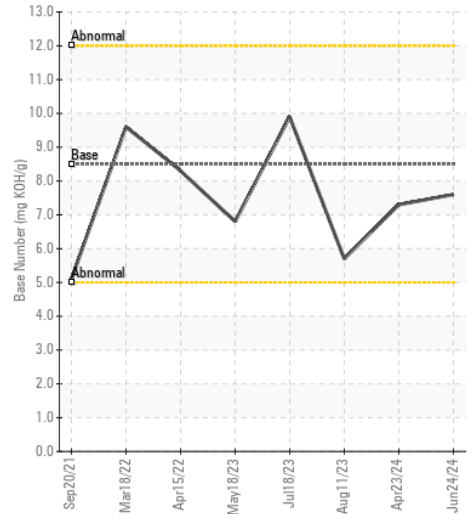
**Non-ferrous Metals**



**Viscosity @ 100°C**



**Base Number**



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0945841 **Received** : 02 Jul 2024  
**Lab Number** : 06226047 **Tested** : 05 Jul 2024  
**Unique Number** : 11109540 **Diagnosed** : 05 Jul 2024 - Jonathan Hester  
**Test Package** : FLEET ( Additional Tests: KV40 )

**SALEM NATIONALEASE CORPORATION**  
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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)