



# OIL ANALYSIS REPORT

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

Machine Id  
**29219**  
 Component  
**Diesel Engine**  
 Fluid  
**DIESEL ENGINE OIL SAE 15W40 (--- QTS)**

## 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>WC0952696</b>	WC0636850	WC0605942
Sample Date		Client Info		<b>23 Jun 2024</b>	15 Dec 2021	12 Oct 2021
Machine Age	mls	Client Info		<b>525019</b>	354669	303056
Oil Age	mls	Client Info		<b>0</b>	25000	25000
Filter Age	mls	Client Info		<b>0</b>	25000	25000
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>200	<b>10</b>	10	15
Chromium	ppm	ASTM D5185m	>6	<b>0</b>	<1	1
Nickel	ppm	ASTM D5185m	>3	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m	>2	<b>0</b>	0	<1
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>50	<b>5</b>	3	7
Lead	ppm	ASTM D5185m	>10	<b>0</b>	0	<1
Copper	ppm	ASTM D5185m	>50	<b>&lt;1</b>	5	5
Tin	ppm	ASTM D5185m	>6	<b>&lt;1</b>	<1	0
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.

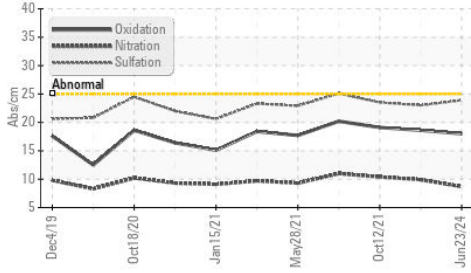
Silicon	ppm	ASTM D5185m	>50	<b>5</b>	4	5
Potassium	ppm	ASTM D5185m	>20	<b>5</b>	5	34
Fuel		WC Method	>3.0	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.5</b>	0.6	0.9
Nitration	Abs/cm	*ASTM D7624	>20	<b>8.7</b>	9.9	10.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>23.9</b>	23.0	23.5
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

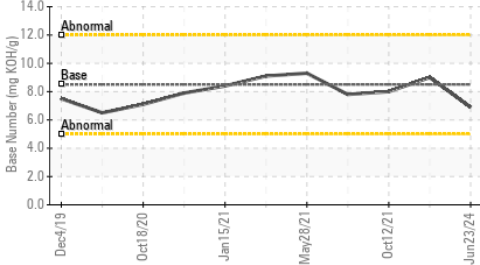
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>158	<b>3</b>	3	4
Boron	ppm	ASTM D5185m	250	<b>183</b>	7	7
Barium	ppm	ASTM D5185m	10	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	100	<b>78</b>	68	65
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m	450	<b>509</b>	888	1070
Calcium	ppm	ASTM D5185m	3000	<b>1338</b>	1154	1345
Phosphorus	ppm	ASTM D5185m	1150	<b>1062</b>	940	1040
Zinc	ppm	ASTM D5185m	1350	<b>1309</b>	1217	1258
Sulfur	ppm	ASTM D5185m	4250	<b>3596</b>	2797	4186
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>18.0</b>	18.6	19.1
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	<b>6.9</b>	9	8
Visc @ 100°C	cSt	ASTM D445	14.4	<b>14.3</b>	13.7	13.8

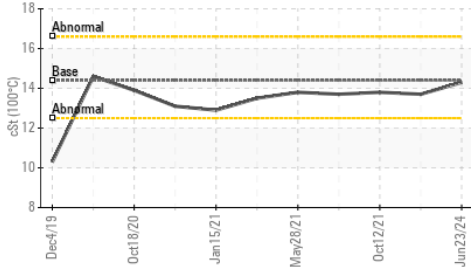
**FT-IR (Direct Trend)**



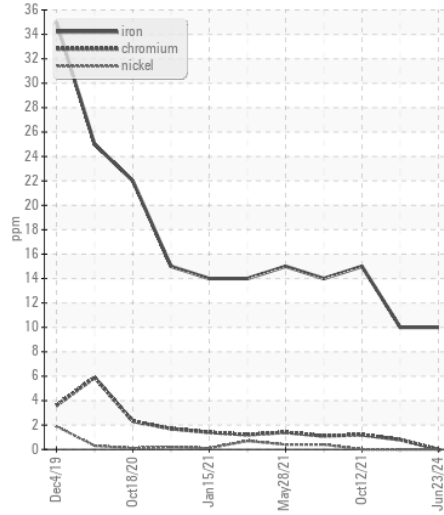
**Base Number**



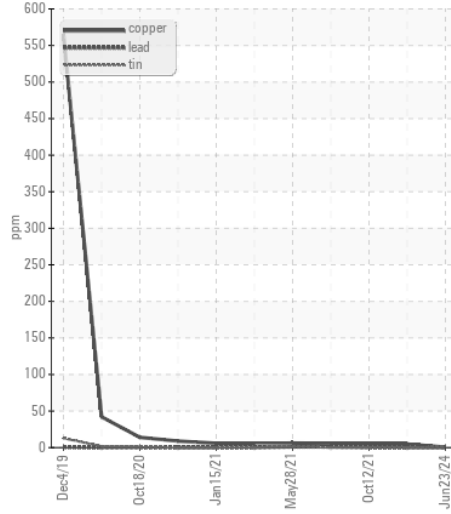
**Viscosity @ 100°C**



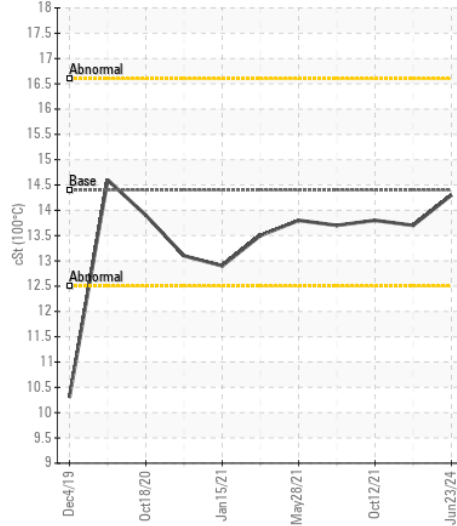
**Ferrous Alloys**



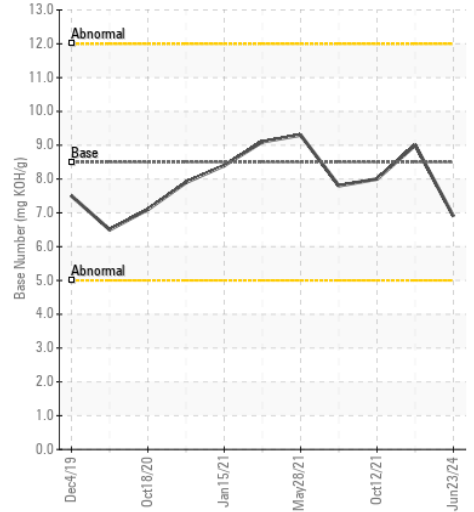
**Non-ferrous Metals**



**Viscosity @ 100°C**



**Base Number**



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0952696  
**Lab Number** : 06227250  
**Unique Number** : 11110743  
**Test Package** : FLEET

**Received** : 03 Jul 2024  
**Tested** : 05 Jul 2024  
**Diagnosed** : 05 Jul 2024 - Wes Davis

**SALEM NATIONALEASE CORPORATION**  
 198 PARK PLAZA DRIVE  
 WINSTON SALEM, NC  
 US 27105

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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)