



# OIL ANALYSIS REPORT

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



Area  
**RIG 1**  
Machine Id  
**CATERPILLAR 3512 R1-G-03 NKL**  
Component  
**Diesel Engine**  
Fluid  
**CHEVRON 15W40 (--- GAL)**

## RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>KL0013871</b>	KL0014039	KL0014073
Sample Date		Client Info		<b>20 Mar 2024</b>	11 Jan 2024	12 Dec 2023
Machine Age	days	Client Info		<b>45362</b>	45303	45272
Oil Age	days	Client Info		<b>0</b>	0	0
Filter Age	days	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>2</b>	3	4
Chromium	ppm	ASTM D5185m	>20	<b>0</b>	<1	<1
Nickel	ppm	ASTM D5185m	>2	<b>0</b>	<1	<1
Titanium	ppm	ASTM D5185m	>2	<b>&lt;1</b>	<1	<1
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>25	<b>2</b>	3	4
Lead	ppm	ASTM D5185m	>40	<b>0</b>	<1	<1
Copper	ppm	ASTM D5185m	>330	<b>&lt;1</b>	1	2
Tin	ppm	ASTM D5185m	>15	<b>0</b>	<1	<1
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	0
White Metal	scalar	*Visual	NONE	<b>LIGHT</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

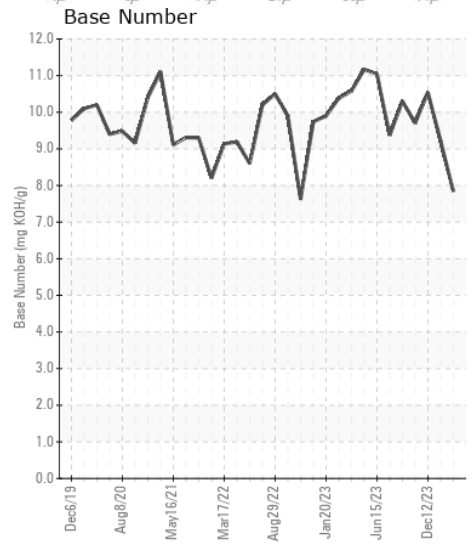
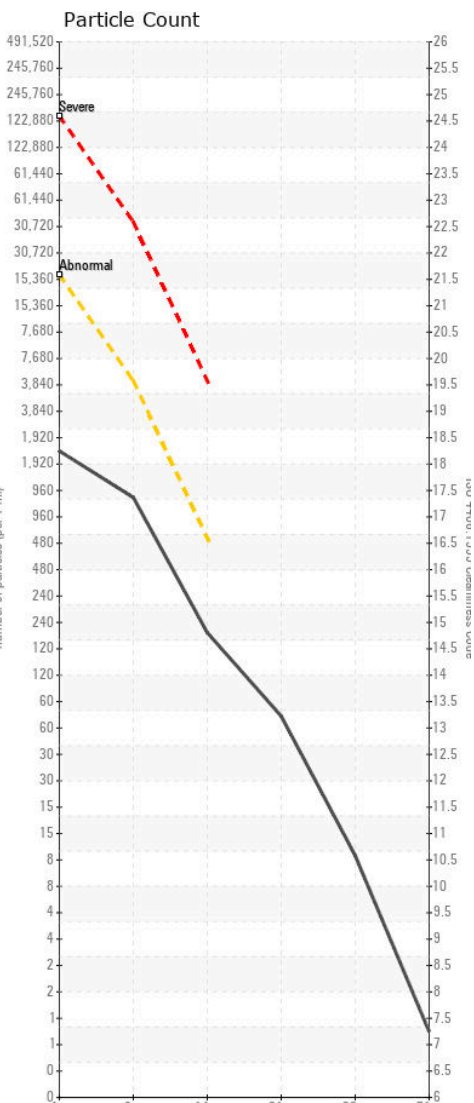
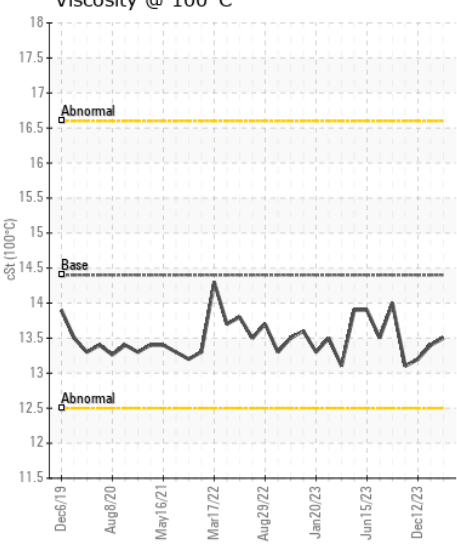
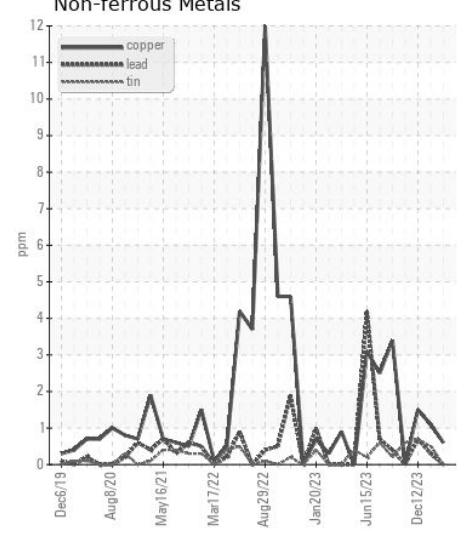
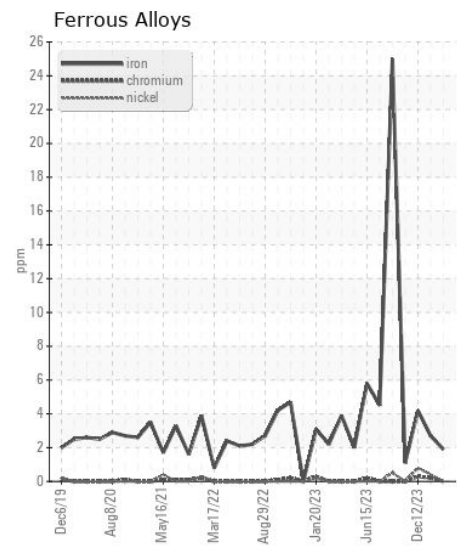
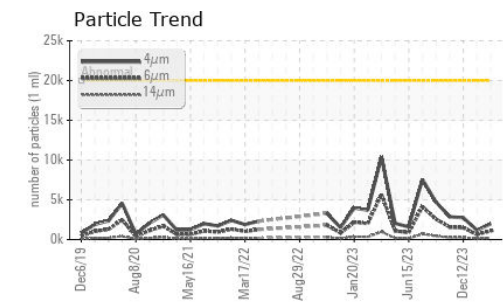
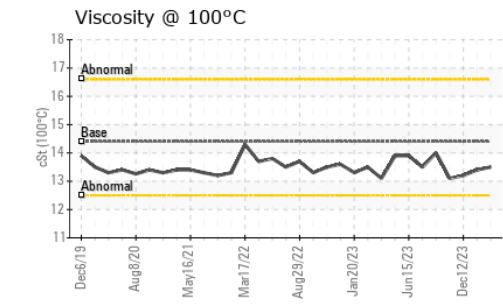
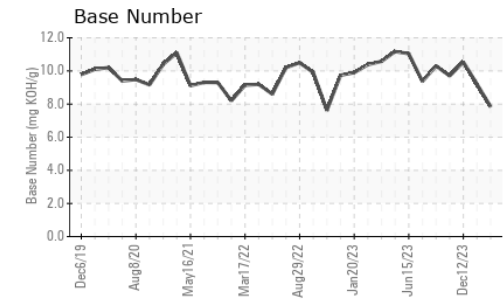
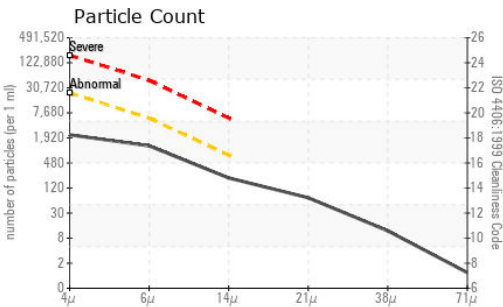
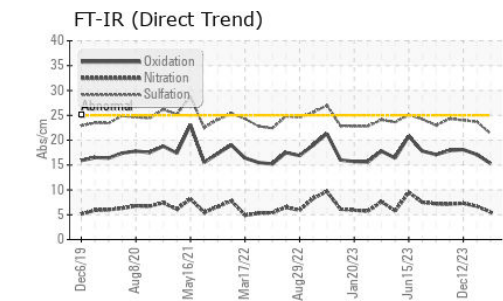
There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable.

Silicon	ppm	ASTM D5185m	>25	<b>15</b>	10	9
Potassium	ppm	ASTM D5185m	>20	<b>3</b>	2	2
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>	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	<b>5.5</b>	6.7	7.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>21.3</b>	23.7	24.0
Particles >4µm		ASTM D7647	>20000	<b>1992</b>	1166	2740
Particles >6µm		ASTM D7647	>5000	<b>1085</b>	635	1493
Particles >14µm		ASTM D7647	>640	<b>185</b>	108	254
Particles >21µm		ASTM D7647	>160	<b>62</b>	36	86
Particles >38µm		ASTM D7647	>40	<b>10</b>	6	13
Particles >71µm		ASTM D7647	>10	<b>1</b>	1	1
Oil Cleanliness		ISO 4406 (c)	>21/19/16	<b>18/17/15</b>	17/16/14	19/18/15
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	>50	<b>0</b>	0	0
Boron	ppm	ASTM D5185m		<b>512</b>	371	449
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>93</b>	124	164
Manganese	ppm	ASTM D5185m		<b>0</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>404</b>	664	898
Calcium	ppm	ASTM D5185m		<b>1369</b>	1513	1955
Phosphorus	ppm	ASTM D5185m		<b>1079</b>	751	858
Zinc	ppm	ASTM D5185m		<b>1143</b>	816	1077
Sulfur	ppm	ASTM D5185m		<b>3445</b>	2854	3690
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>15.3</b>	17.1	18.1
Base Number (BN)	mg KOH/g	ASTM D2896		<b>7.84</b>	9.21	10.54
Visc @ 100°C	cSt	ASTM D445	14.4	<b>13.5</b>	13.4	13.2



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : KL0013871  
**Lab Number** : 06145349  
**Unique Number** : 10970157  
**Test Package** : MOB 2 ( Additional Tests: PrtCount )

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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)