



# OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Area  
**RIG 2**  
Machine Id  
**CATERPILLAR 3512 R2-G-01-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>KL0014263</b>	KL0014243	KL0013903
Sample Date		Client Info		<b>14 May 2024</b>	03 Apr 2024	15 Feb 2024
Machine Age	days	Client Info		<b>45416</b>	45375	45337
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	ABNORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>4</b>	3	1
Chromium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	0	<1
Nickel	ppm	ASTM D5185m	>2	<b>&lt;1</b>	0	0
Titanium	ppm	ASTM D5185m	>2	<b>2</b>	10	0
Silver	ppm	ASTM D5185m	>2	<b>1</b>	0	0
Aluminum	ppm	ASTM D5185m	>25	<b>2</b>	1	4
Lead	ppm	ASTM D5185m	>40	<b>&lt;1</b>	0	<1
Copper	ppm	ASTM D5185m	>330	<b>1</b>	<1	<1
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</b>	0	<1
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

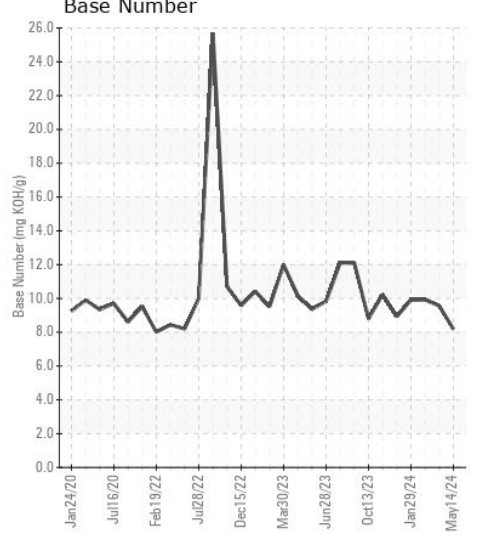
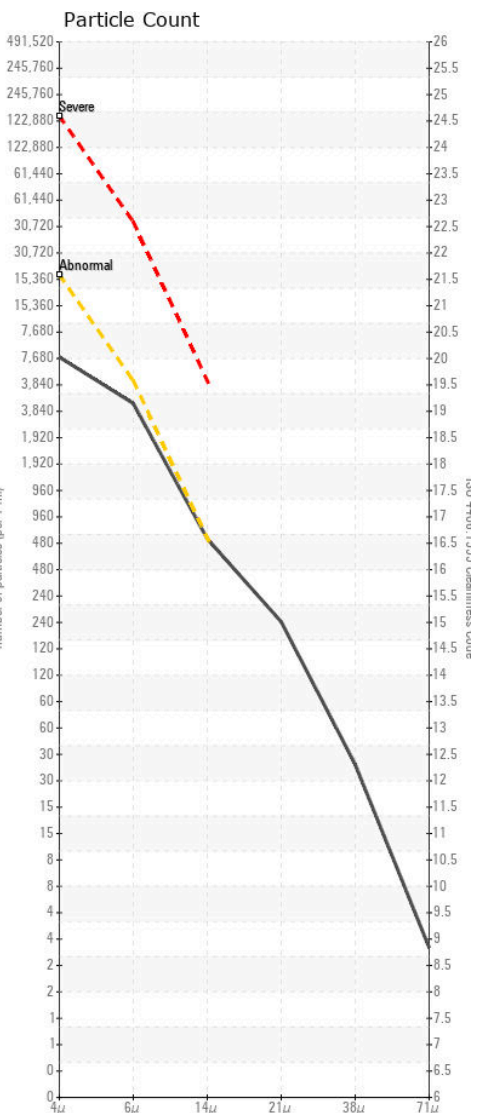
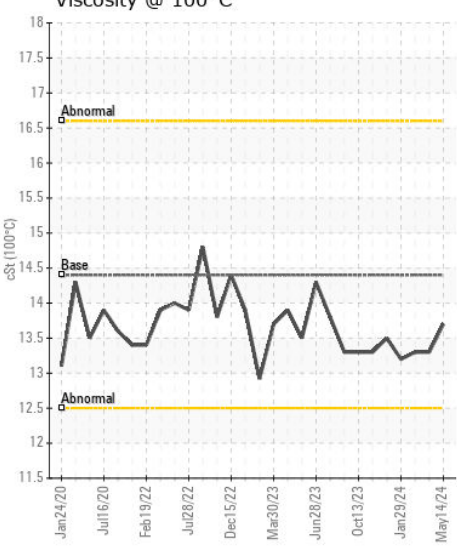
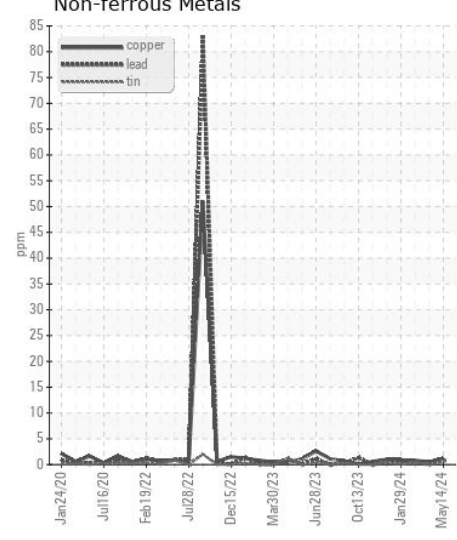
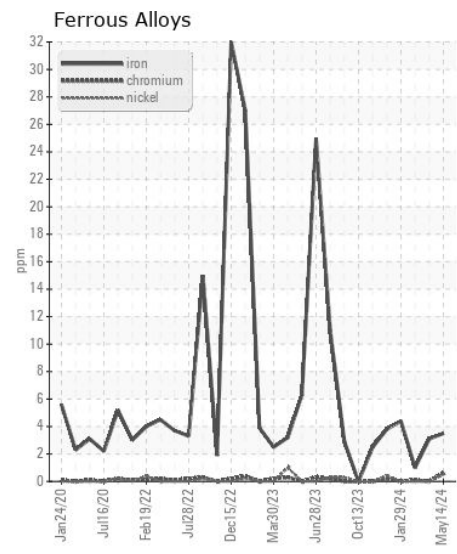
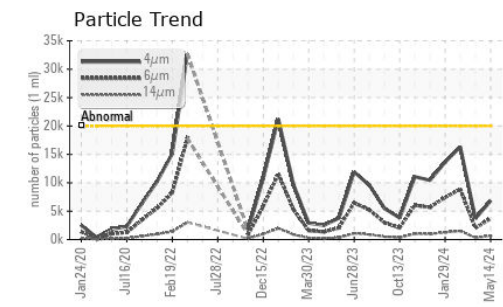
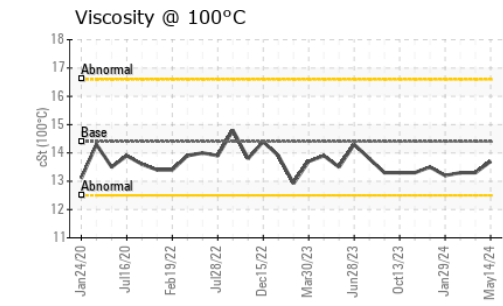
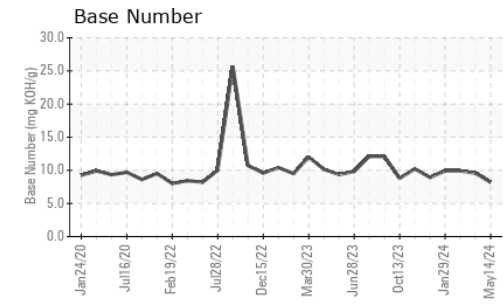
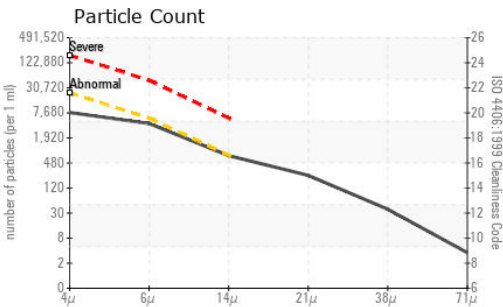
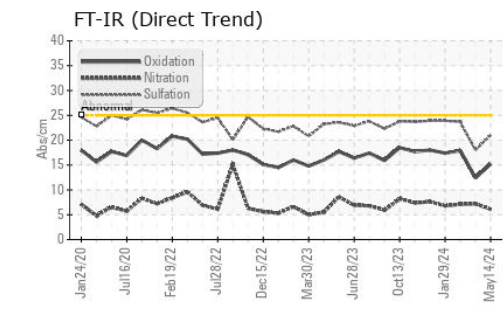
There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable.

Silicon	ppm	ASTM D5185m	>25	<b>6</b>	8	6
Potassium	ppm	ASTM D5185m	>20	<b>2</b>	1	<1
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>0.2</b>	0.1	0.2
Nitration	Abs/cm	*ASTM D7624	>20	<b>6.1</b>	7.2	7.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>21.0</b>	18.0	23.7
Particles >4µm		ASTM D7647	>20000	<b>6812</b>	3706	16321
Particles >6µm		ASTM D7647	>5000	<b>3711</b>	2019	▲ 8891
Particles >14µm		ASTM D7647	>640	<b>632</b>	344	▲ 1513
Particles >21µm		ASTM D7647	>160	<b>213</b>	116	▲ 510
Particles >38µm		ASTM D7647	>40	<b>33</b>	18	▲ 79
Particles >71µm		ASTM D7647	>10	<b>3</b>	2	8
Oil Cleanliness		ISO 4406 (c)	>21/19/16	<b>20/19/16</b>	19/18/16	▲ 21/20/18
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>1</b>	2	<1
Boron	ppm	ASTM D5185m		<b>465</b>	139	344
Barium	ppm	ASTM D5185m		<b>1</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>84</b>	40	127
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>428</b>	682	701
Calcium	ppm	ASTM D5185m		<b>1396</b>	1427	1528
Phosphorus	ppm	ASTM D5185m		<b>956</b>	681	727
Zinc	ppm	ASTM D5185m		<b>1160</b>	752	868
Sulfur	ppm	ASTM D5185m		<b>3339</b>	3272	2509
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>15.2</b>	12.4	17.9
Base Number (BN)	mg KOH/g	ASTM D2896		<b>8.20</b>	9.56	9.92
Visc @ 100°C	cSt	ASTM D445	14.4	<b>13.7</b>	13.3	13.3



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : KL0014263  
**Lab Number** : 06191205  
**Unique Number** : 11047957  
**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)