



**James River  
Equipment**

OIL ANALYSIS REPORT

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



Machine Id  
**CATERPILLAR TH460 E203**  
Component  
**Diesel Engine**  
Fluid  
**CAT DIESEL ENGINE OIL 15W40 (8 QTS)**

**RECOMMENDATION**

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>JR0206206</b>	JR0206197	JR0203814
Sample Date		Client Info		<b>16 Apr 2024</b>	09 Apr 2024	12 Mar 2024
Machine Age	hrs	Client Info		<b>5381</b>	5378	5360
Oil Age	hrs	Client Info		<b>21</b>	18	298
Filter Age	hrs	Client Info		<b>0</b>	18	298
Oil Changed		Client Info		<b>Not Changd</b>	Not Changd	Changed
Filter Changed		Client Info		<b>N/A</b>	Not Changd	Changed
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>5</b>	5	13
Chromium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	0	1
Nickel	ppm	ASTM D5185m	>2	<b>0</b>	0	2
Titanium	ppm	ASTM D5185m	>2	<b>&lt;1</b>	0	<1
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>25	<b>5</b>	4	4
Lead	ppm	ASTM D5185m	>40	<b>&lt;1</b>	<1	2
Copper	ppm	ASTM D5185m	>330	<b>&lt;1</b>	<1	3
Tin	ppm	ASTM D5185m	>15	<b>0</b>	0	<1
Vanadium	ppm	ASTM D5185m		<b>0</b>	<1	<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.

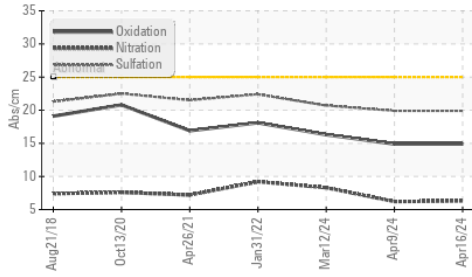
Silicon	ppm	ASTM D5185m	>25	<b>7</b>	6	10
Potassium	ppm	ASTM D5185m	>20	<b>3</b>	<1	2
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.1</b>	0.1	0.2
Nitration	Abs/cm	*ASTM D7624	>20	<b>6.3</b>	6.2	8.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>19.9</b>	19.9	20.7
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**

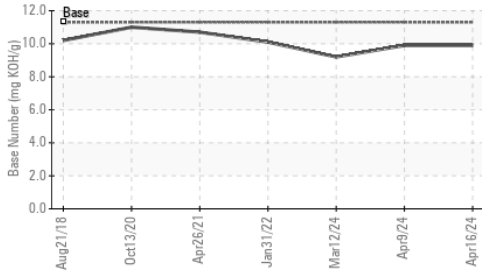
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<b>2</b>	0	0
Boron	ppm	ASTM D5185m		<b>268</b>	274	268
Barium	ppm	ASTM D5185m		<b>0</b>	<1	1
Molybdenum	ppm	ASTM D5185m		<b>248</b>	250	247
Manganese	ppm	ASTM D5185m		<b>0</b>	<1	1
Magnesium	ppm	ASTM D5185m		<b>777</b>	887	786
Calcium	ppm	ASTM D5185m		<b>1434</b>	1600	1434
Phosphorus	ppm	ASTM D5185m		<b>988</b>	973	979
Zinc	ppm	ASTM D5185m	1460	<b>1099</b>	1192	1068
Sulfur	ppm	ASTM D5185m		<b>3142</b>	3995	3204
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>14.9</b>	14.9	16.3
Base Number (BN)	mg KOH/g	ASTM D2896	11.3	<b>9.9</b>	9.9	9.2
Visc @ 100°C	cSt	ASTM D445	15.5	<b>13.8</b>	13.9	13.6

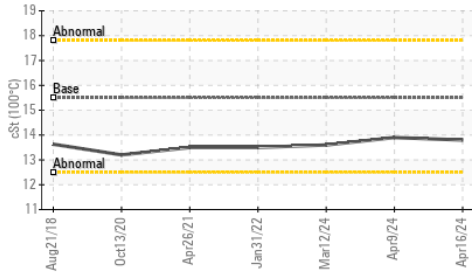
**FT-IR (Direct Trend)**



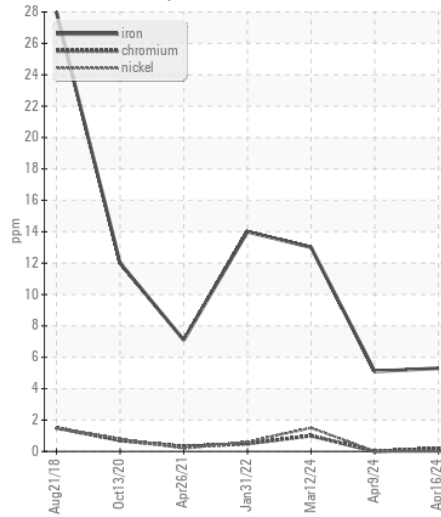
**Base Number**



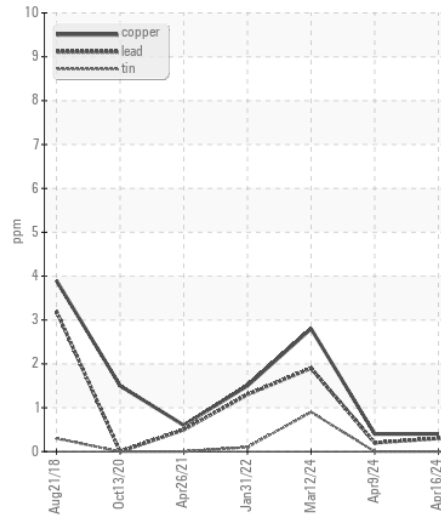
**Viscosity @ 100°C**



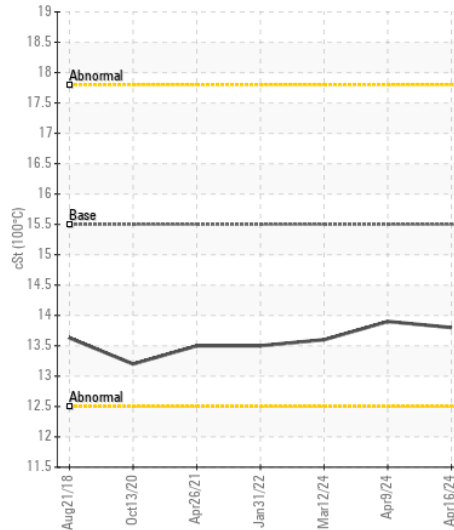
**Ferrous Alloys**



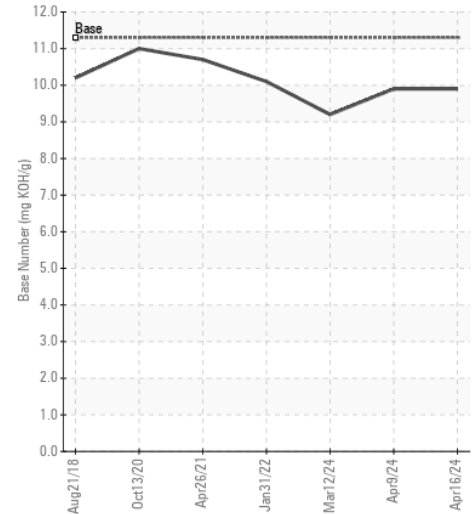
**Non-ferrous Metals**



**Viscosity @ 100°C**



**Base Number**



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : JR0206206 **Received** : 17 Apr 2024  
**Lab Number** : 06151758 **Tested** : 18 Apr 2024  
**Unique Number** : 10981836 **Diagnosed** : 19 Apr 2024 - Sean Felton  
**Test Package** : CONST ( Additional Tests: TBN )

**MATTHEWS CONSTRUCTION**  
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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)