



# OIL ANALYSIS REPORT

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



Area  
**AMR-St Joe**  
 Machine Id  
**115441 LIEBHERR LH50 115441**  
 Component  
**Diesel Engine**  
 Fluid  
**DIESEL ENGINE OIL SAE 5W30 (--- GAL)**

## RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>DJJ0018507</b>	DJJ0018482	DJJ0018529
Sample Date		Client Info		<b>18 Jun 2024</b>	10 Jan 2024	30 May 2023
Machine Age	hrs	Client Info		<b>1999</b>	1496	998
Oil Age	hrs	Client Info		<b>0</b>	250	0
Filter Age	hrs	Client Info		<b>0</b>	250	0
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	>66	<b>5</b>	5	4
Chromium	ppm	ASTM D5185m	>4	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>4	<b>&lt;1</b>	0	0
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
Silver	ppm	ASTM D5185m	>3	<b>&lt;1</b>	0	0
Aluminum	ppm	ASTM D5185m	>8	<b>3</b>	2	0
Lead	ppm	ASTM D5185m	>10	<b>0</b>	<1	<1
Copper	ppm	ASTM D5185m	>74	<b>2</b>	1	3
Tin	ppm	ASTM D5185m	>4	<b>0</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

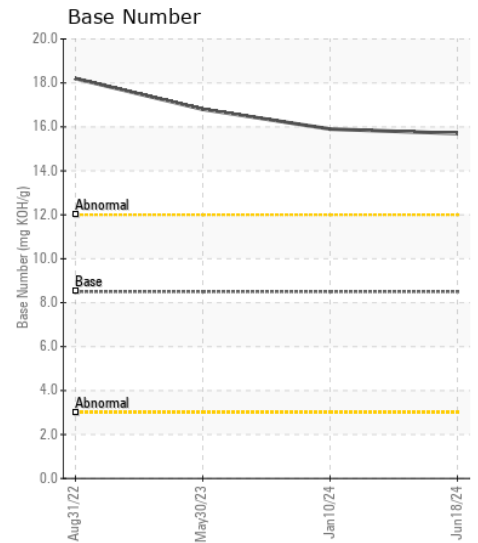
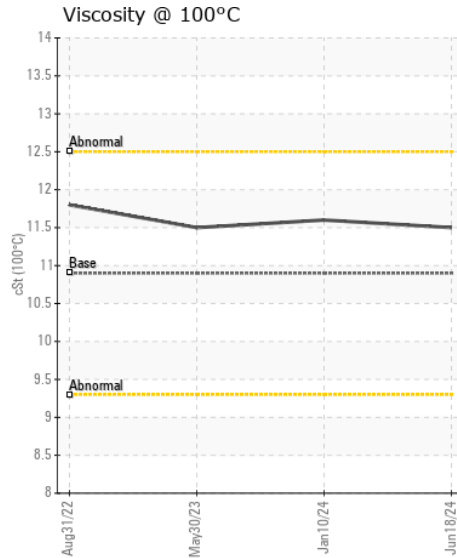
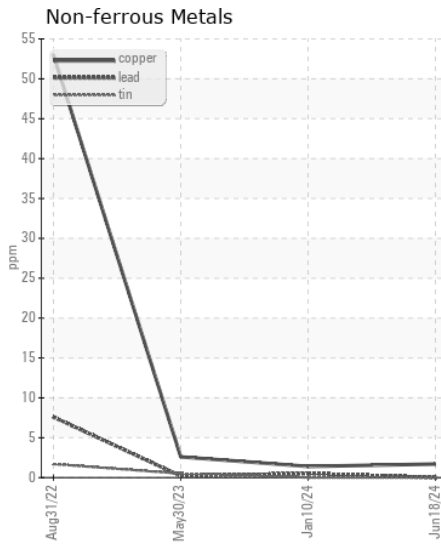
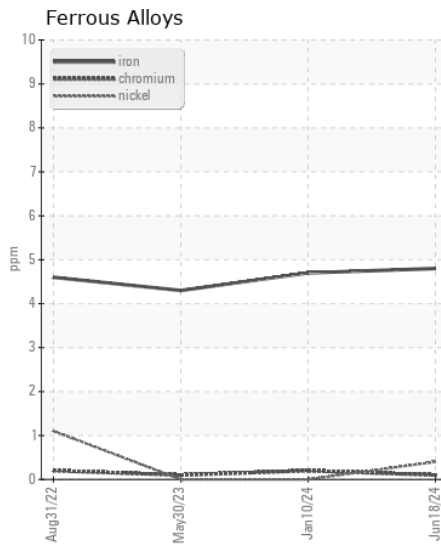
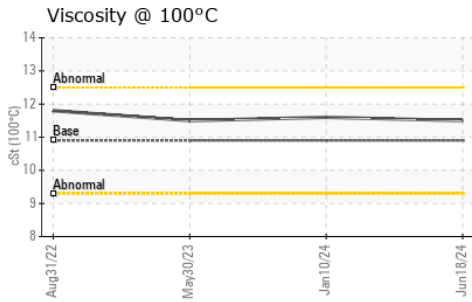
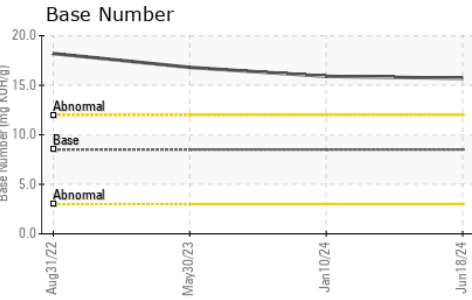
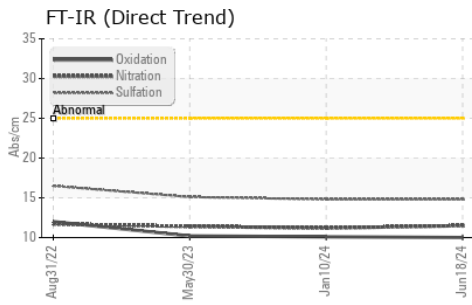
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>15	<b>9</b>	9	8
Potassium	ppm	ASTM D5185m	>20	<b>3</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>0.1</b>	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	<b>11.5</b>	11.2	11.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>14.8</b>	14.8	15.1
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>3</b>	2	2
Boron	ppm	ASTM D5185m	250	<b>235</b>	249	259
Barium	ppm	ASTM D5185m	10	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	100	<b>2</b>	2	3
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1
Magnesium	ppm	ASTM D5185m	450	<b>47</b>	38	34
Calcium	ppm	ASTM D5185m	3000	<b>4576</b>	4433	4298
Phosphorus	ppm	ASTM D5185m	1150	<b>1129</b>	1060	1001
Zinc	ppm	ASTM D5185m	1350	<b>1296</b>	1209	1197
Sulfur	ppm	ASTM D5185m	4250	<b>3736</b>	2859	3379
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>10.0</b>	10.1	10.2
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	<b>15.7</b>	15.9	16.8
Visc @ 100°C	cSt	ASTM D445	10.9	<b>11.5</b>	11.6	11.5



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : DJJ0018507 **Received** : 27 Jun 2024  
**Lab Number** : 06222966 **Tested** : 28 Jun 2024  
**Unique Number** : 11101163 **Diagnosed** : 30 Jun 2024 - Don Baldrige  
**Test Package** : CONST ( Additional Tests: TBN )

**ADVANTAGE METALS RECYCLING - ST JOSEPH**  
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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)