



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	ATTENTION



Area
RMR-Greensburg
Machine Id
14869 LIEBHERR A934 016294-935
Component
Diesel Engine
Fluid
SHELL RIMULA SUPER SAE 15W40 (--- GAL)

RECOMMENDATION

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		DJJ0017779	DJJ0004748	DJJ0004789
Sample Date		Client Info		18 Mar 2024	03 Aug 2021	04 Dec 2020
Machine Age	hrs	Client Info		0	16312	15774
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	Changed	Changed
Filter Changed		Client Info		N/A	Changed	Changed
Sample Status				ATTENTION	ATTENTION	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>66	13	8	3
Chromium	ppm	ASTM D5185m	>4	3	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m	>3	0	0	<1
Aluminum	ppm	ASTM D5185m	>8	3	2	0
Lead	ppm	ASTM D5185m	>10	<1	2	<1
Copper	ppm	ASTM D5185m	>74	3	2	1
Tin	ppm	ASTM D5185m	>4	<1	<1	0
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

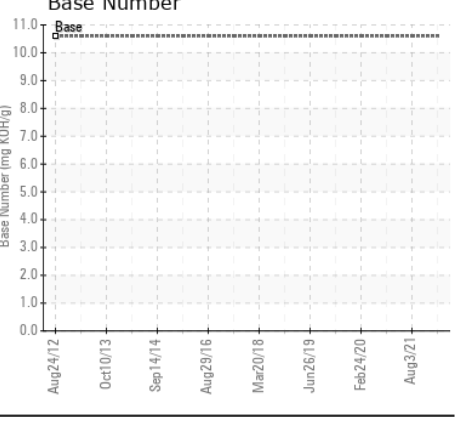
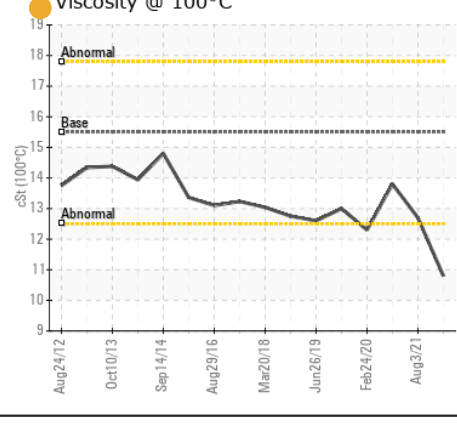
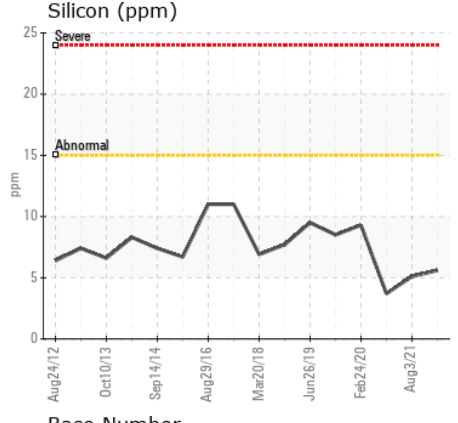
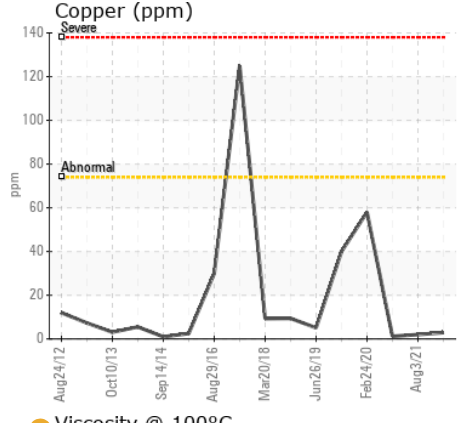
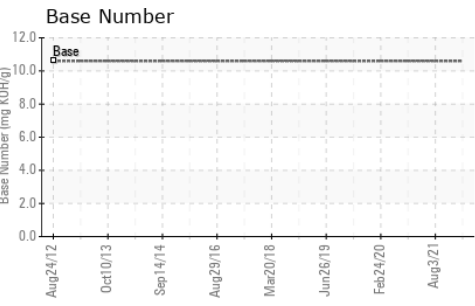
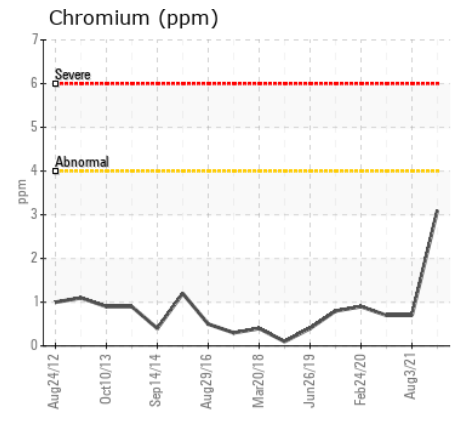
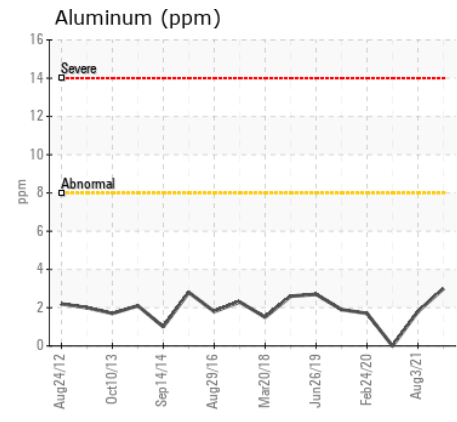
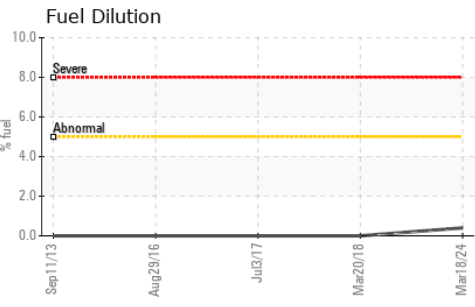
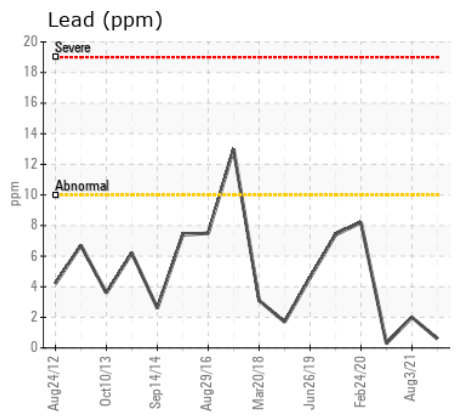
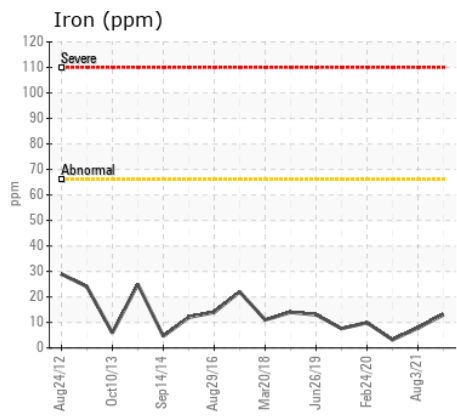
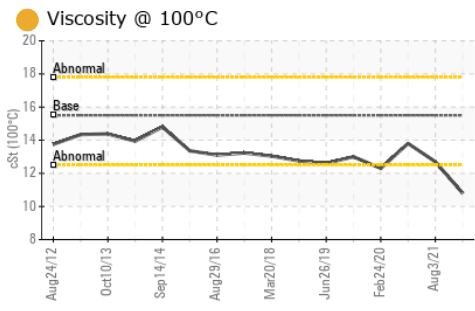
Tests indicate that there is no fuel present in the oil. There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>15	6	5	4
Potassium	ppm	ASTM D5185m	>20	26	90	28
Fuel	%	ASTM D3524	>5	0.4	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.3	0.5	0.1
Nitration	Abs/cm	*ASTM D7624	>20	6.3	8.2	5.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	16.0	18.6	16.6
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG

FLUID CONDITION

The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

Sodium	ppm	ASTM D5185m		9	99	54
Boron	ppm	ASTM D5185m		10	19	16
Barium	ppm	ASTM D5185m		1	0	0
Molybdenum	ppm	ASTM D5185m		18	42	12
Manganese	ppm	ASTM D5185m		0	<1	0
Magnesium	ppm	ASTM D5185m		30	27	92
Calcium	ppm	ASTM D5185m	2840	1851	2092	2235
Phosphorus	ppm	ASTM D5185m	1150	796	874	912
Zinc	ppm	ASTM D5185m	1270	940	1029	1012
Sulfur	ppm	ASTM D5185m	2829	3394	2978	2958
Oxidation	Abs/.1mm	*ASTM D7414	>25	8.8	11.8	9.7
Base Number (BN)	mg KOH/g	ASTM D2896	10.6	5.5	---	---
Visc @ 100°C	cSt	ASTM D445	15.5	10.8	12.7	13.8



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : DJJ0017779
Lab Number : 06124751
Unique Number : 10938902
Test Package : MOBCE (Additional Tests: FuelDilution, PercentFuel, TBN)

RIVER METALS RECYCLING - GREENSBURG
 323 SOUTH MONFORT STREET
 GREENSBURG, IN
 US 47240
 Contact: RYAN BOWDEN

Received : 21 Mar 2024
 Tested : 25 Mar 2024
 Diagnosed : 25 Mar 2024 - Sean Felton
 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)