



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Area
AMR-12th Street [FT SCOTT]
Machine Id
23636 LIEBHERR R924CHD 025202-1066
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 5W30 (8 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		DJJ0017219	DJJ0017269	DJJ0017264
Sample Date		Client Info		20 May 2024	06 Nov 2023	27 Mar 2023
Machine Age	hrs	Client Info		12691	12142	11581
Oil Age	hrs	Client Info		250	250	250
Filter Age	hrs	Client Info		250	250	250
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	10	4	5
Chromium	ppm	ASTM D5185m	>5	1	<1	<1
Nickel	ppm	ASTM D5185m	>5	<1	0	<1
Titanium	ppm	ASTM D5185m		<1	<1	0
Silver	ppm	ASTM D5185m	>3	<1	0	0
Aluminum	ppm	ASTM D5185m	>15	3	1	1
Lead	ppm	ASTM D5185m	>30	1	<1	1
Copper	ppm	ASTM D5185m	>125	4	4	5
Tin	ppm	ASTM D5185m	>5	1	<1	<1
Vanadium	ppm	ASTM D5185m		<1	0	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

There is no indication of any contamination in the oil.

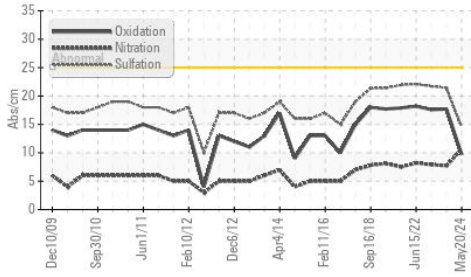
Silicon	ppm	ASTM D5185m	>60	9	7	6
Potassium	ppm	ASTM D5185m	>20	3	8	8
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.2	0.4	0.4
Nitration	Abs/cm	*ASTM D7624	>20	10.6	7.7	7.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	14.5	21.4	21.7
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

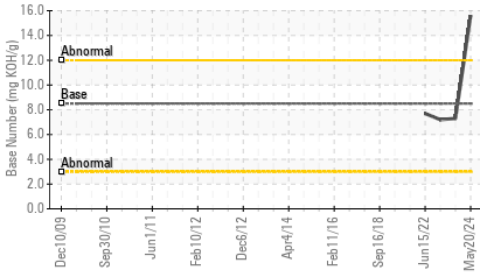
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		3	3	4
Boron	ppm	ASTM D5185m	250	295	147	183
Barium	ppm	ASTM D5185m	10	0	0	0
Molybdenum	ppm	ASTM D5185m	100	3	<1	<1
Manganese	ppm	ASTM D5185m		<1	0	<1
Magnesium	ppm	ASTM D5185m	450	35	0	18
Calcium	ppm	ASTM D5185m	3000	4451	2263	2202
Phosphorus	ppm	ASTM D5185m	1150	980	1043	981
Zinc	ppm	ASTM D5185m	1350	1269	1238	1196
Sulfur	ppm	ASTM D5185m	4250	3296	3488	3618
Oxidation	Abs/.1mm	*ASTM D7414	>25	9.7	17.7	17.6
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	15.6	7.3	7.2
Visc @ 100°C	cSt	ASTM D445	10.9	11.6	13.9	13.8

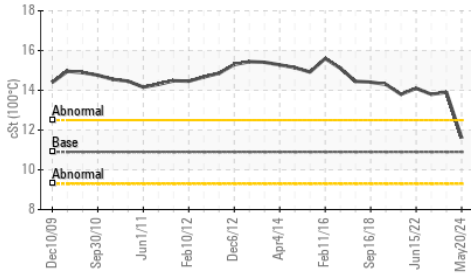
FT-IR (Direct Trend)



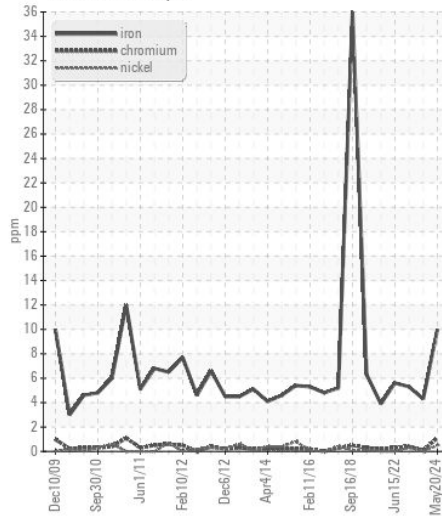
Base Number



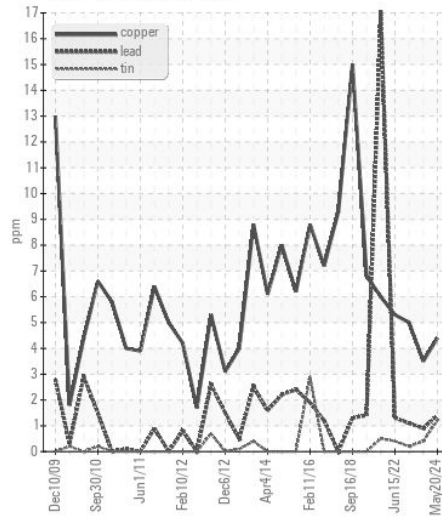
Viscosity @ 100°C



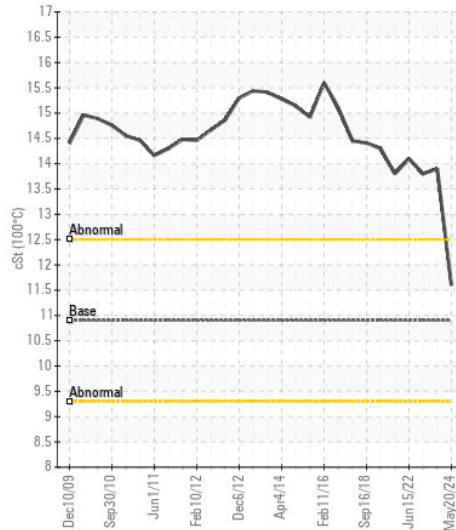
Ferrous Alloys



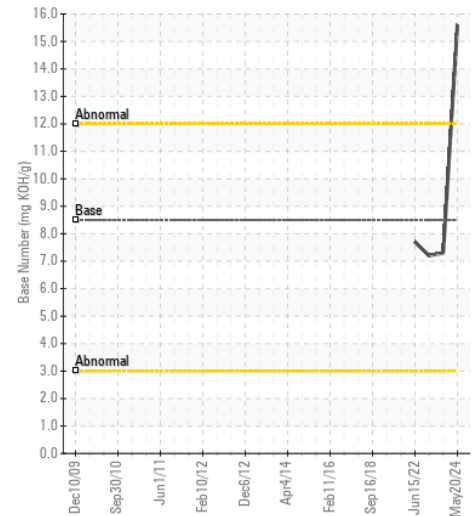
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : DJJ0017219 **Received** : 24 May 2024
Lab Number : 06190308 **Tested** : 27 May 2024
Unique Number : 11047060 **Diagnosed** : 29 May 2024 - Don Baldrige
Test Package : CONST (Additional Tests: TBN)

ADVANTAGE METALS RECYCLING - 12 STREET
 1153 S. 12TH STREET
 KANSAS CITY, KS
 US 66105
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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)