



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
BIG EASY
Component
1 Main Engine
Fluid
DIESEL ENGINE OIL SAE 15W40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor. Please specify the component make and model with your next sample. Please specify the brand, type, and viscosity of the oil on your next sample.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		MW0064871	MW0064923	MW0057184
Sample Date		Client Info		04 Jun 2024	24 Jan 2024	18 Sep 2023
Machine Age	hrs	Client Info		19690	18008	16743
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	Not Changd	Not Changd
Filter Changed		Client Info		N/A	Not Changd	N/A
Sample Status				NORMAL	ABNORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>75	3	0	4
Chromium	ppm	ASTM D5185m	>8	<1	0	0
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m	>3	15	13	13
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>15	2	1	<1
Lead	ppm	ASTM D5185m	>18	0	1	<1
Copper	ppm	ASTM D5185m	>80	0	<1	<1
Tin	ppm	ASTM D5185m	>14	0	<1	0
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.

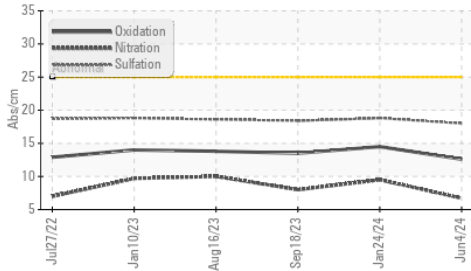
Silicon	ppm	ASTM D5185m	>20	4	0	3
Potassium	ppm	ASTM D5185m	>20	5	3	4
Fuel		WC Method	>4.0	<1.0	▲ 2.6	1.4
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844		0.1	0.3	0.2
Nitration	Abs/cm	*ASTM D7624	>20	6.7	9.5	8.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	18.0	18.8	18.4
Silt	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	>0.1	NEG	NEG	NEG

FLUID CONDITION

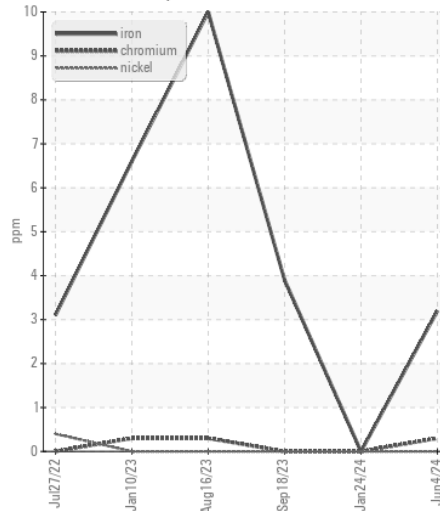
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>158	3	4	6
Boron	ppm	ASTM D5185m	250	122	78	93
Barium	ppm	ASTM D5185m	10	0	0	0
Molybdenum	ppm	ASTM D5185m	100	31	26	28
Manganese	ppm	ASTM D5185m		0	1	0
Magnesium	ppm	ASTM D5185m	450	759	637	718
Calcium	ppm	ASTM D5185m	3000	1746	1462	1731
Phosphorus	ppm	ASTM D5185m	1150	848	681	788
Zinc	ppm	ASTM D5185m	1350	956	798	917
Sulfur	ppm	ASTM D5185m	4250	3336	2881	4171
Oxidation	Abs/.1mm	*ASTM D7414	>25	12.6	14.5	13.5
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	8.7	7.7	8.7
Visc @ 100°C	cSt	ASTM D445	14.4	13.1	▲ 11.8	12.5

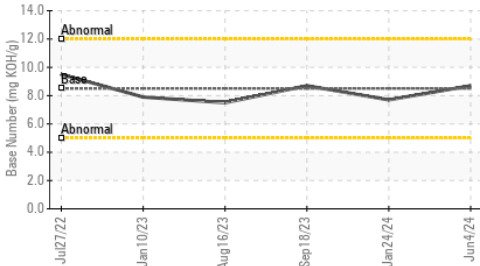
FT-IR (Direct Trend)



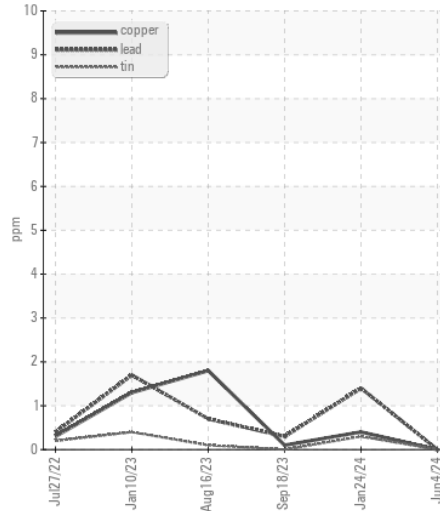
Ferrous Alloys



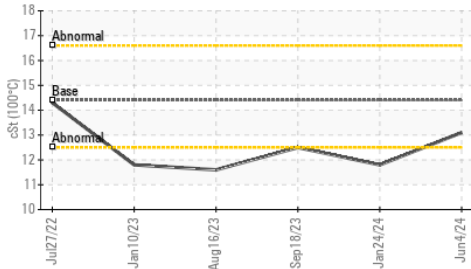
Base Number



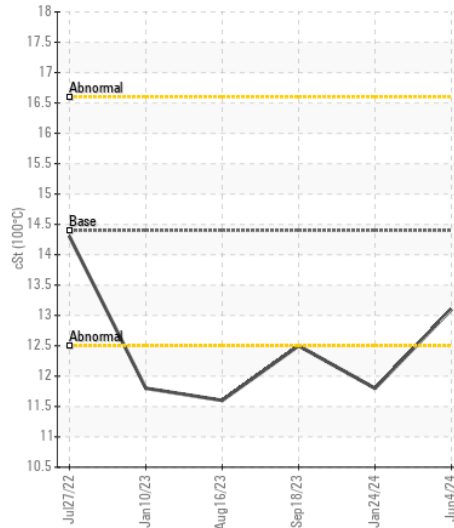
Non-ferrous Metals



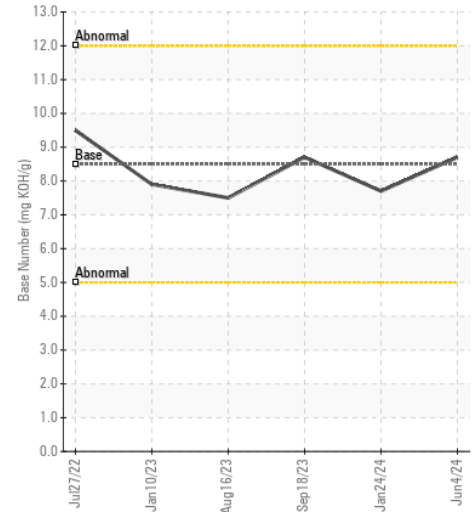
Viscosity @ 100°C



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : MW0064871
Lab Number : 06214208
Unique Number : 11087072
Test Package : MAR 2

Received : 19 Jun 2024
Tested : 20 Jun 2024
Diagnosed : 20 Jun 2024 - Wes Davis

AMERICAN RIVER TRANSPORTATION CO.
 P.O. BOX 2889
 ST. LOUIS, MO
 US 63111
 Contact: BRIAN GRIEWING
 brian.griewing@adm.com

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)

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