



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

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

**RECOMMENDATION**

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>MW0064870</b>	MW0064924	MW0057158
Sample Date		Client Info		<b>04 Jun 2024</b>	24 Jan 2024	16 Aug 2023
Machine Age	hrs	Client Info		<b>20124</b>	18501	17034
Oil Age	hrs	Client Info		<b>0</b>	0	0
Filter Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>N/A</b>	Not Changd	N/A
Filter Changed		Client Info		<b>N/A</b>	Not Changd	N/A
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>75	<b>7</b>	0	7
Chromium	ppm	ASTM D5185m	>8	<b>&lt;1</b>	0	<1
Nickel	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m	>3	<b>14</b>	13	15
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>15	<b>2</b>	<1	1
Lead	ppm	ASTM D5185m	>18	<b>0</b>	1	<1
Copper	ppm	ASTM D5185m	>80	<b>&lt;1</b>	0	<1
Tin	ppm	ASTM D5185m	>14	<b>0</b>	<1	<1
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	<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.

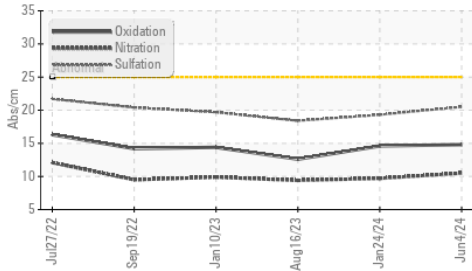
Silicon	ppm	ASTM D5185m	>20	<b>4</b>	0	4
Potassium	ppm	ASTM D5185m	>20	<b>4</b>	3	4
Fuel	%	ASTM D3524	>4.0	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.1	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844		<b>1.1</b>	0.7	0.8
Nitration	Abs/cm	*ASTM D7624	>20	<b>10.5</b>	9.7	9.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>20.5</b>	19.3	18.4
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	>0.1	<b>NEG</b>	NEG	NEG

**FLUID CONDITION**

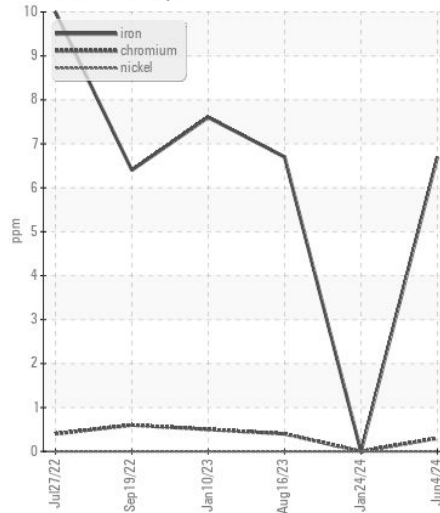
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>158	<b>3</b>	4	3
Boron	ppm	ASTM D5185m	250	<b>65</b>	77	73
Barium	ppm	ASTM D5185m	10	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	100	<b>28</b>	25	32
Manganese	ppm	ASTM D5185m		<b>0</b>	<1	<1
Magnesium	ppm	ASTM D5185m	450	<b>686</b>	644	694
Calcium	ppm	ASTM D5185m	3000	<b>1607</b>	1444	1604
Phosphorus	ppm	ASTM D5185m	1150	<b>807</b>	674	732
Zinc	ppm	ASTM D5185m	1350	<b>887</b>	787	875
Sulfur	ppm	ASTM D5185m	4250	<b>3066</b>	2838	3060
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>14.8</b>	14.6	12.6
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	<b>7.5</b>	7.7	7.6
Visc @ 100°C	cSt	ASTM D445	14.4	<b>12.4</b>	12.1	12.4

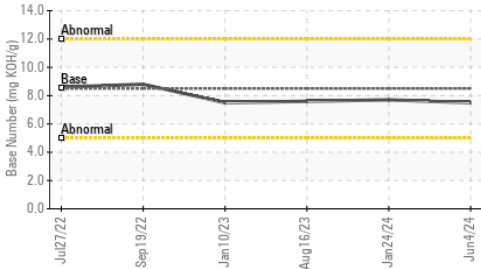
**FT-IR (Direct Trend)**



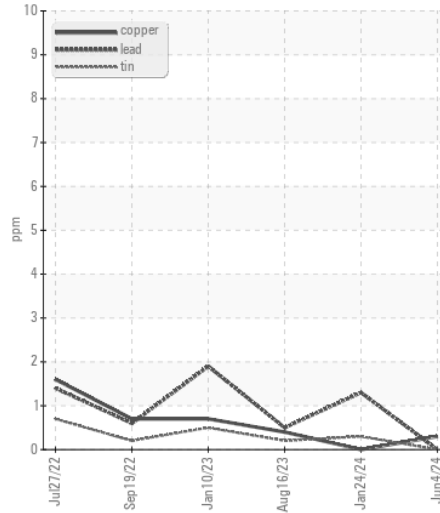
**Ferrous Alloys**



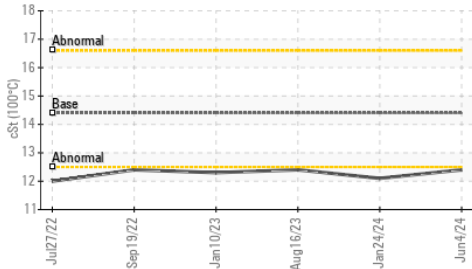
**Base Number**



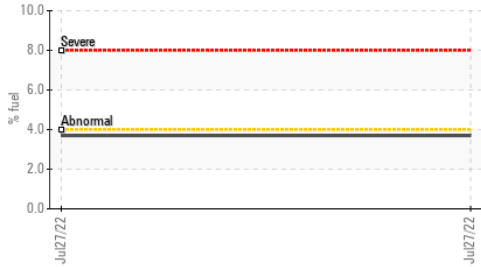
**Non-ferrous Metals**



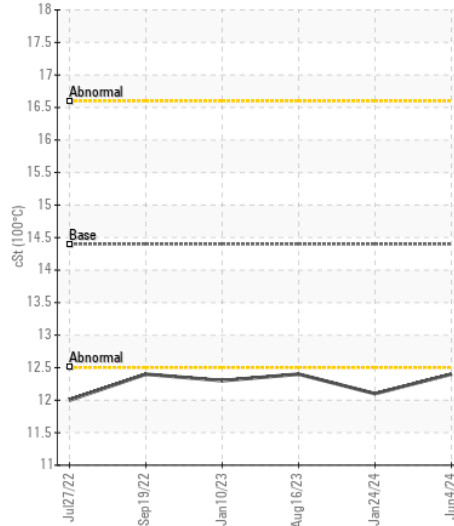
**Viscosity @ 100°C**



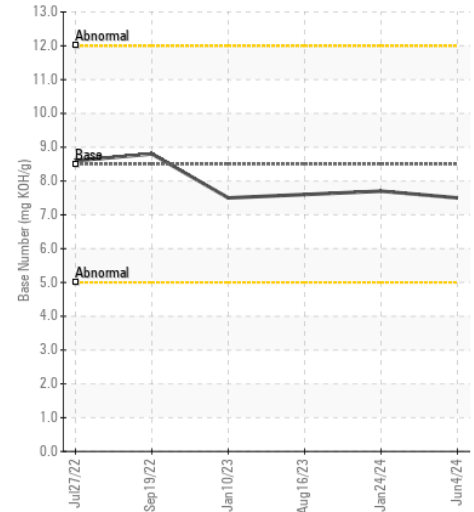
**Fuel Dilution**



**Viscosity @ 100°C**



**Base Number**



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : MW0064870  
**Lab Number** : 06214209  
**Unique Number** : 11087073  
**Test Package** : MAR 2 ( Additional Tests: FuelDilution )

**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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