



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
5035
Component
Diesel Engine
Fluid
DURAMAX 15W40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		JR0221290	JR0195510	JR0210336
Sample Date		Client Info		15 Jul 2024	20 May 2024	14 Mar 2024
Machine Age	hrs	Client Info		8086	7774	7372
Oil Age	hrs	Client Info		500	250	3000
Filter Age	hrs	Client Info		500	250	3000
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	6	12	14
Chromium	ppm	ASTM D5185m	>20	0	<1	1
Nickel	ppm	ASTM D5185m	>2	0	0	<1
Titanium	ppm	ASTM D5185m	>2	0	0	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>25	5	11	15
Lead	ppm	ASTM D5185m	>40	0	<1	<1
Copper	ppm	ASTM D5185m	>330	1	2	3
Tin	ppm	ASTM D5185m	>15	0	0	<1
Vanadium	ppm	ASTM D5185m		0	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.

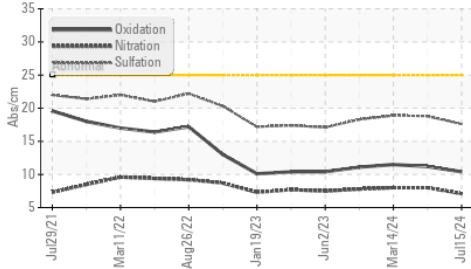
Silicon	ppm	ASTM D5185m	>25	3	4	5
Potassium	ppm	ASTM D5185m	>20	<1	1	4
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.2	0.3	0.4
Nitration	Abs/cm	*ASTM D7624	>20	7.1	8.0	8.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	17.6	18.8	18.9
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

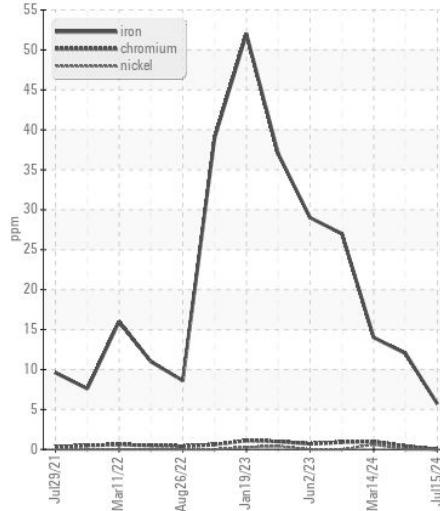
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<1	1	2
Boron	ppm	ASTM D5185m		11	<1	2
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		14	3	4
Manganese	ppm	ASTM D5185m		0	<1	<1
Magnesium	ppm	ASTM D5185m		82	62	42
Calcium	ppm	ASTM D5185m		2467	2582	2375
Phosphorus	ppm	ASTM D5185m		946	1061	911
Zinc	ppm	ASTM D5185m		1113	1278	1098
Sulfur	ppm	ASTM D5185m		4426	5071	4023
Oxidation	Abs/.1mm	*ASTM D7414	>25	10.4	11.2	11.5
Base Number (BN)	mg KOH/g	ASTM D2896		6.5	6.2	6.2
Visc @ 100°C	cSt	ASTM D445		13.0	13.3	13.3

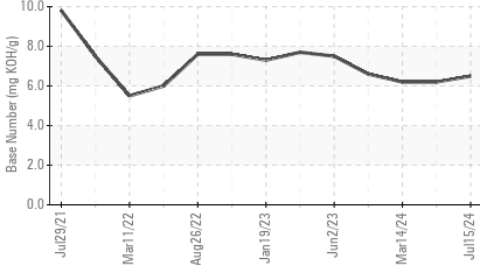
FT-IR (Direct Trend)



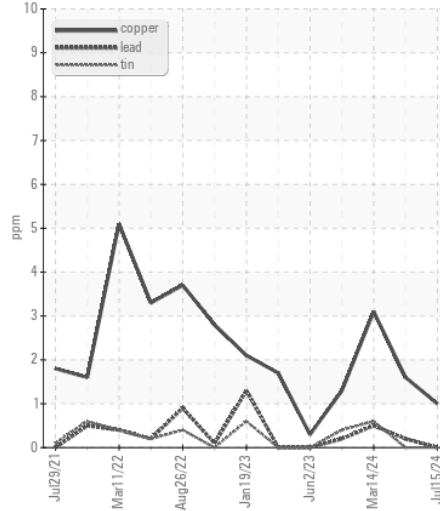
Ferrous Alloys



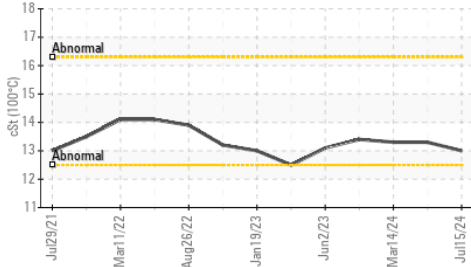
Base Number



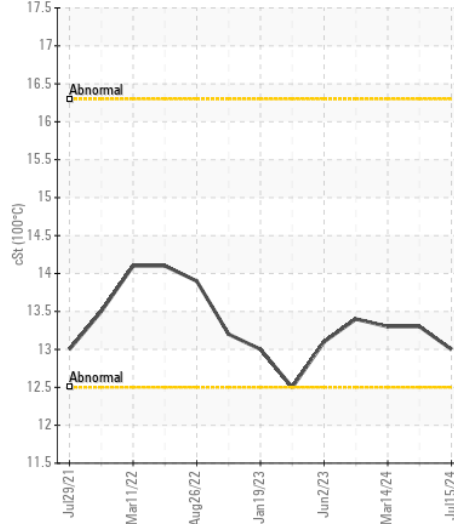
Non-ferrous Metals



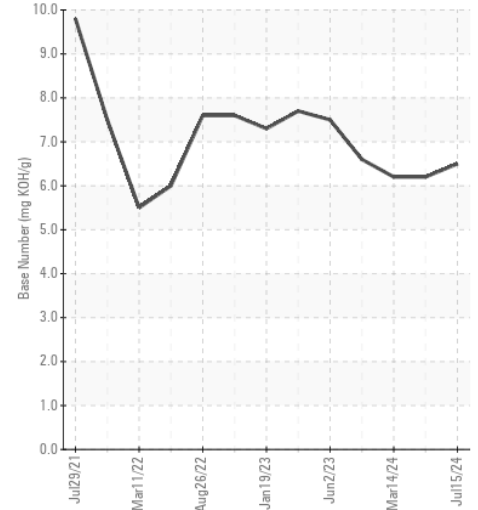
Viscosity @ 100°C



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0221290 **Received** : 18 Jul 2024
Lab Number : 06240140 **Tested** : 19 Jul 2024
Unique Number : 11128974 **Diagnosed** : 19 Jul 2024 - Wes Davis
Test Package : CONST (Additional Tests: TBN)

PATRIOT DEVELOPMENT CORP
 22721 LADBROOK DRIVE STE 120
 STERLING, VA
 US 20166
 Contact: ROBERT MOSS
 robert.moss@patriotdev.net

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)

T:
F: