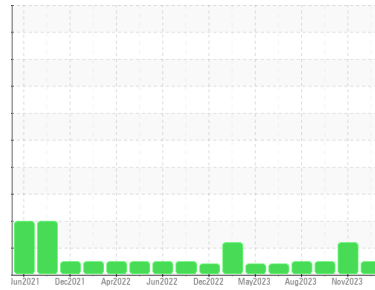


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
2006
Component
Diesel Engine
Fluid
SHELL ROTELLA T 15W40 (--- GAL)

DIAGNOSIS

Recommendation

The oil change at the time of sampling has been noted. Resample at the next service interval to monitor. No other corrective action is recommended at this time.

Wear

All component wear rates are normal.

Contamination

Light fuel dilution occurring. No other contaminants were detected in the oil.

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.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			JR0195458	JR0195120	JR0184919
Sample Date	Client Info			13 Feb 2024	28 Nov 2023	12 Sep 2023
Machine Age	hrs	Client Info		15893	15542	15136
Oil Age	hrs	Client Info		750	500	250
Oil Changed	Client Info			Changed	Changed	Changed
Sample Status				NORMAL	ABNORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Water	WC Method	>0.2		NEG	NEG	NEG
Glycol	WC Method			NEG	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>200	6	7	6
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>10	1	2	<1
Titanium	ppm	ASTM D5185m		<1	<1	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>30	3	2	3
Lead	ppm	ASTM D5185m	>40	<1	0	0
Copper	ppm	ASTM D5185m	>20	2	1	<1
Tin	ppm	ASTM D5185m	>20	<1	<1	<1
Vanadium	ppm	ASTM D5185m		<1	0	<1
Cadmium	ppm	ASTM D5185m		<1	0	0

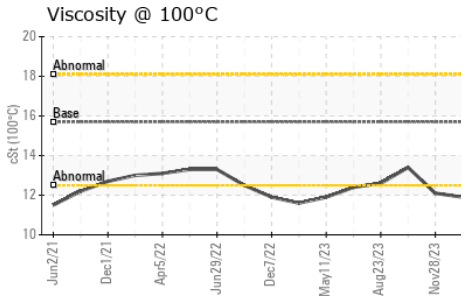
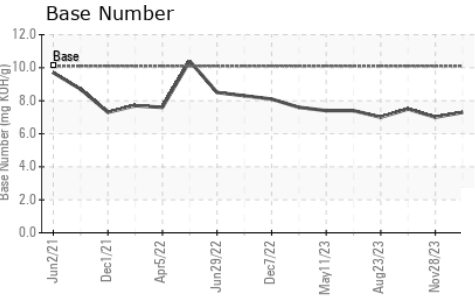
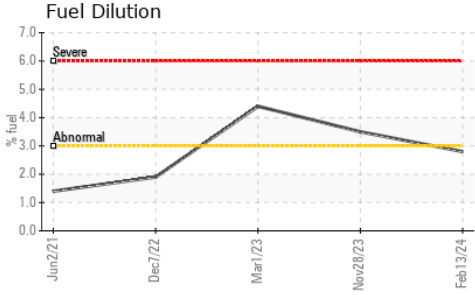
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	316	3	4	3
Barium	ppm	ASTM D5185m	0.0	0	2	0
Molybdenum	ppm	ASTM D5185m	1.2	3	3	4
Manganese	ppm	ASTM D5185m		<1	0	0
Magnesium	ppm	ASTM D5185m	24	40	41	44
Calcium	ppm	ASTM D5185m	2292	2194	2195	2209
Phosphorus	ppm	ASTM D5185m	1064	847	816	860
Zinc	ppm	ASTM D5185m	1160	1011	988	1034
Sulfur	ppm	ASTM D5185m	4996	3780	5023	4140

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>20	7	8	4
Sodium	ppm	ASTM D5185m		1	0	1
Potassium	ppm	ASTM D5185m	>20	2	2	2
Fuel	%	ASTM D3524	>3.0	2.8	▲ 3.5	<1.0

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	0.1	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	6.8	6.5	5.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	15.6	15.9	15.4

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	9.2	9.5	9.4
Base Number (BN)	mg KOH/g	ASTM D2896	10.1	7.3	7.0	7.5

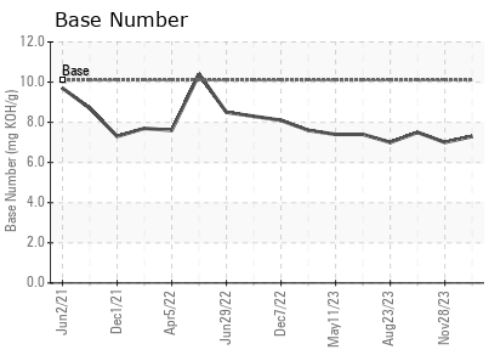
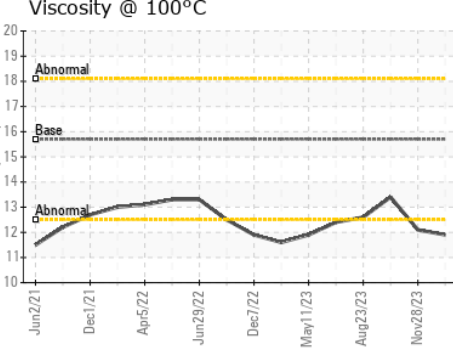
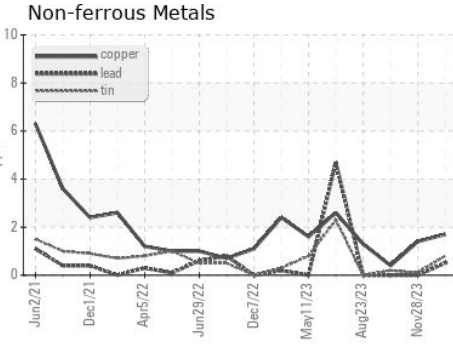
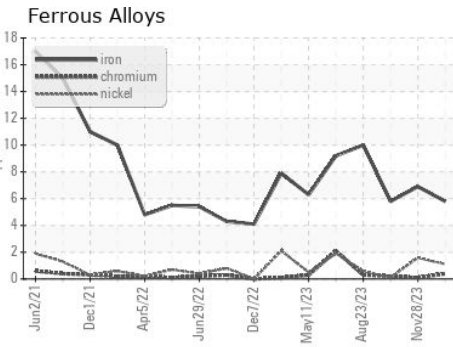
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 100°C	cSt	ASTM D445	15.7	11.9	▲ 12.1	13.4

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0195458 **Received** : 20 Mar 2024
Lab Number : 06123496 **Tested** : 22 Mar 2024
Unique Number : 10937647 **Diagnosed** : 22 Mar 2024 - Wes Davis
Test Package : CONST (Additional Tests: PercentFuel, 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)

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