



LUBE PLUS+

OIL ANALYSIS REPORT

WEAR
CONTAMINATION
FLUID CONDITION

ATTENTION
ABNORMAL
ATTENTION

Machine Id

B3

Component

Diesel Engine

Fluid

15W40 DURON SEMI (--- QTS)

RECOMMENDATION

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LP0001339	LP0001336	WC0661694
Sample Date		Client Info		07 Feb 2024	07 Feb 2024	10 Apr 2023
Machine Age	mls	Client Info		300298	300298	297800
Oil Age	mls	Client Info		11000	12000	11700
Filter Age	mls	Client Info		11000	12000	11700
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	62	30	25
Chromium	ppm	ASTM D5185m	>20	1	1	1
Nickel	ppm	ASTM D5185m	>4	0	<1	0
Titanium	ppm	ASTM D5185m		0	1	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	12	3	2
Lead	ppm	ASTM D5185m	>40	0	1	0
Copper	ppm	ASTM D5185m	>330	78	<1	<1
Tin	ppm	ASTM D5185m	>15	<1	<1	0
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

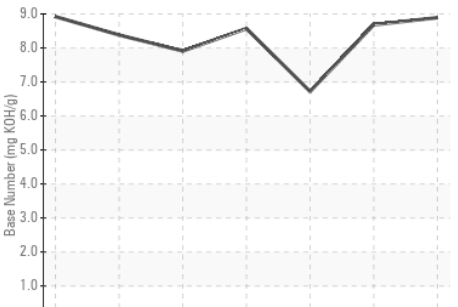
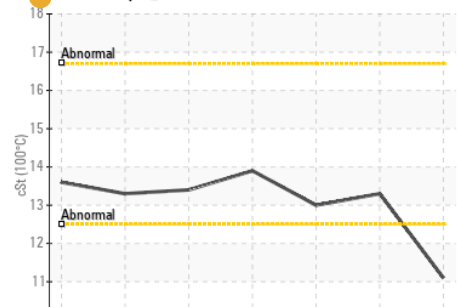
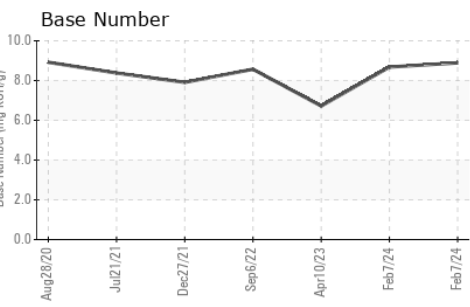
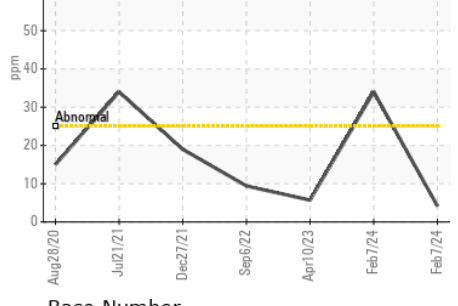
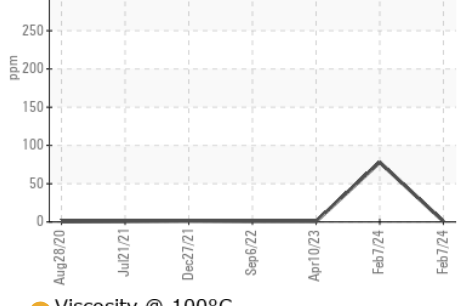
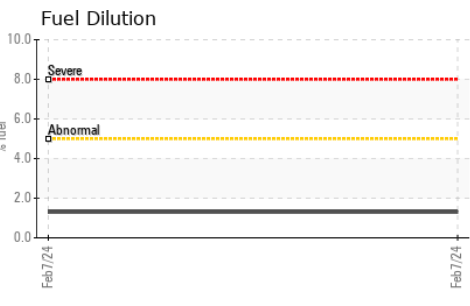
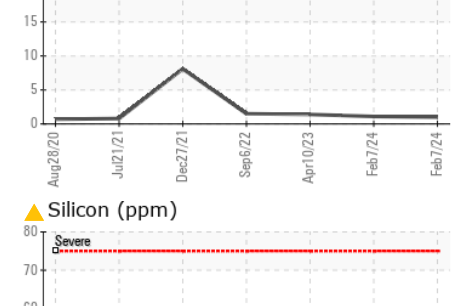
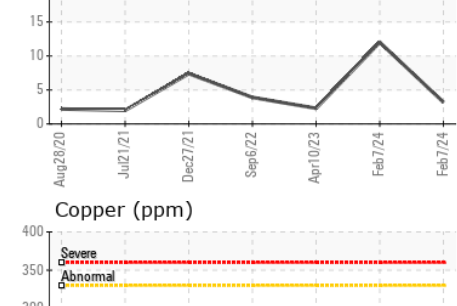
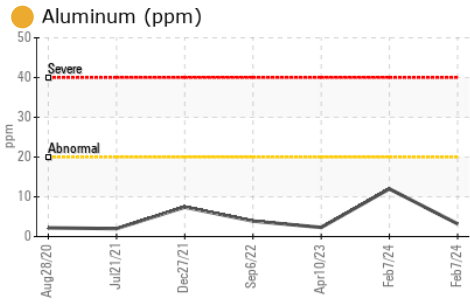
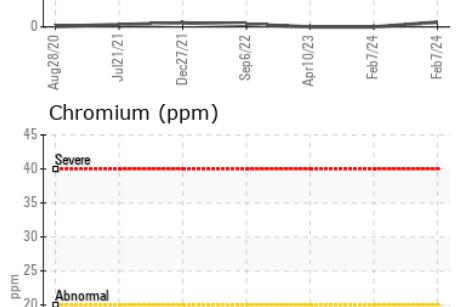
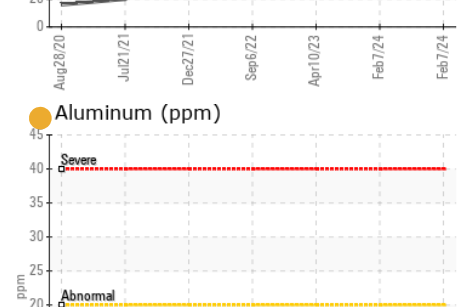
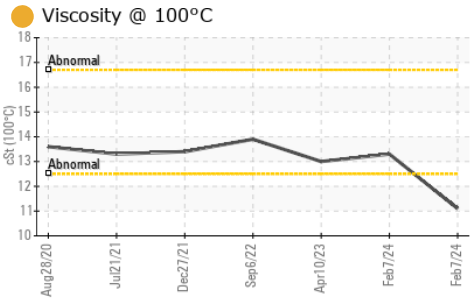
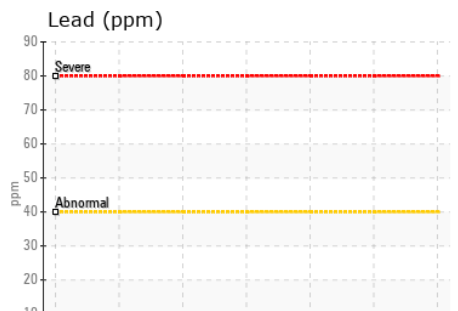
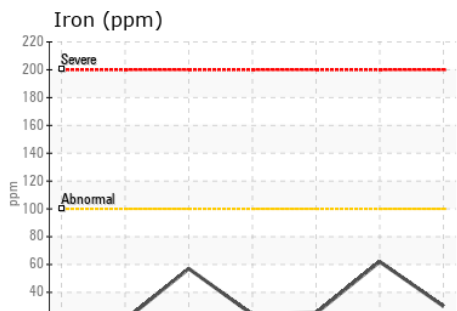
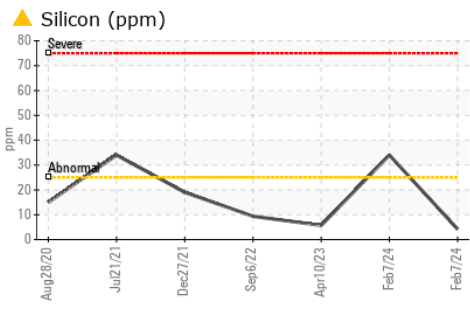
Fuel content negligible. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

Silicon	ppm	ASTM D5185m	>25	34	4	6
Potassium	ppm	ASTM D5185m	>20	18	3	<1
Fuel	%	ASTM D3524	>5	1.3	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.2	0.5	0.4
Nitration	Abs/cm	*ASTM D7624	>20	10.1	9.6	8.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	21.9	20.5	17.8
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 oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

Sodium	ppm	ASTM D5185m		8	3	2
Boron	ppm	ASTM D5185m		49	11	15
Barium	ppm	ASTM D5185m		6	0	0
Molybdenum	ppm	ASTM D5185m		47	63	65
Manganese	ppm	ASTM D5185m		6	<1	<1
Magnesium	ppm	ASTM D5185m		573	940	1028
Calcium	ppm	ASTM D5185m		1529	1055	1201
Phosphorus	ppm	ASTM D5185m		819	1114	1083
Zinc	ppm	ASTM D5185m		919	1259	1347
Sulfur	ppm	ASTM D5185m		2714	2906	3963
Oxidation	Abs/.1mm	*ASTM D7414	>25	22.5	17.0	15.0
Base Number (BN)	mg KOH/g	ASTM D2896		8.89	8.68	6.72
Visc @ 100°C	cSt	ASTM D445		11.1	13.3	13.0



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LP0001339 **Received** : 19 Mar 2024
Lab Number : 06123248 **Tested** : 22 Mar 2024
Unique Number : 10937399 **Diagnosed** : 22 Mar 2024 - Sean Felton
Test Package : MOB 2 (Additional Tests: FuelDilution, PercentFuel)

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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)