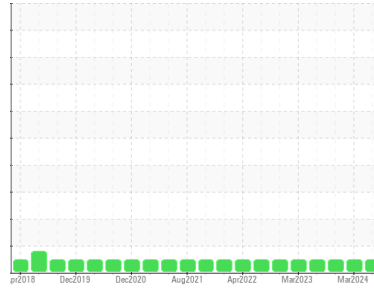


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
WESTERN STAR 16
 Component
Diesel Engine
 Fluid
FLEETLINE SUPERFLEET XHD 15W40 (10 GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination 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			PCA0110132	PCA0110129	LP0000528
Sample Date	Client Info			30 May 2024	20 Mar 2024	02 Jan 2024
Machine Age	mls	Client Info		302486	292216	280763
Oil Age	mls	Client Info		10280	11453	9211
Oil Changed	Client Info			Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel	WC Method	>3.0		<1.0	<1.0	<1.0
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	11	9	11
Chromium	ppm	ASTM D5185m	>6	<1	1	<1
Nickel	ppm	ASTM D5185m	>3	0	<1	0
Titanium	ppm	ASTM D5185m	>2	0	<1	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>50	6	5	3
Lead	ppm	ASTM D5185m	>10	0	1	0
Copper	ppm	ASTM D5185m	>50	3	2	2
Tin	ppm	ASTM D5185m	>6	0	1	0
Vanadium	ppm	ASTM D5185m		<1	<1	0
Cadmium	ppm	ASTM D5185m		0	<1	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		4	13	10
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		12	31	35
Manganese	ppm	ASTM D5185m		<1	<1	0
Magnesium	ppm	ASTM D5185m		66	141	384
Calcium	ppm	ASTM D5185m		2335	2025	1749
Phosphorus	ppm	ASTM D5185m		922	922	879
Zinc	ppm	ASTM D5185m		1123	1076	1077
Sulfur	ppm	ASTM D5185m		4206	3690	3138

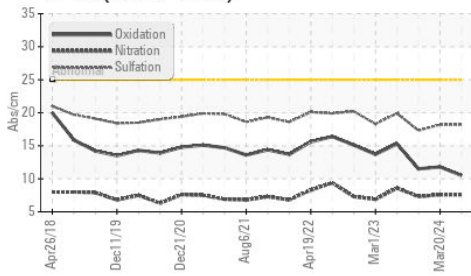
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>50	4	4	4
Sodium	ppm	ASTM D5185m		<1	2	0
Potassium	ppm	ASTM D5185m	>20	3	4	7

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	0.3	0.3	0.3
Nitration	Abs/cm	*ASTM D7624	>20	7.6	7.6	7.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	18.2	18.2	17.3

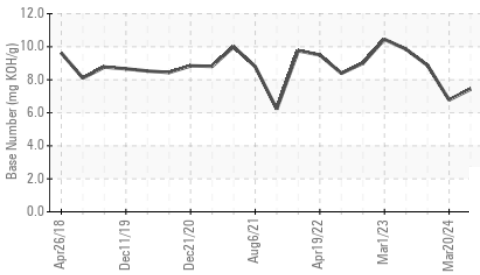
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	10.5	11.8	11.5
Base Number (BN)	mg KOH/g	ASTM D2896		7.43	6.78	8.87

OIL ANALYSIS REPORT

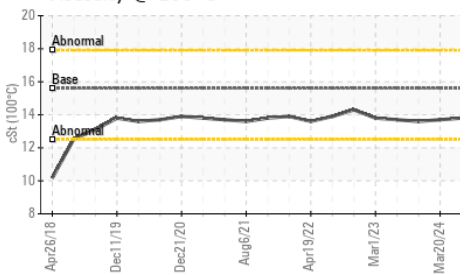
FT-IR (Direct Trend)



Base Number



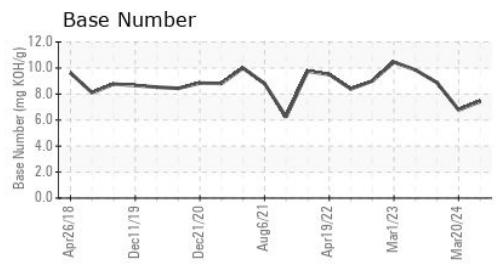
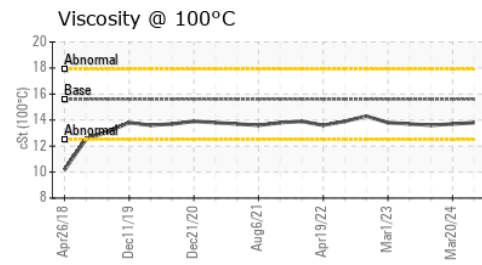
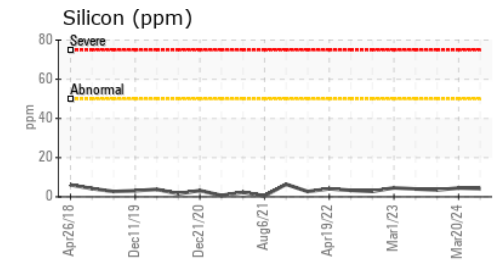
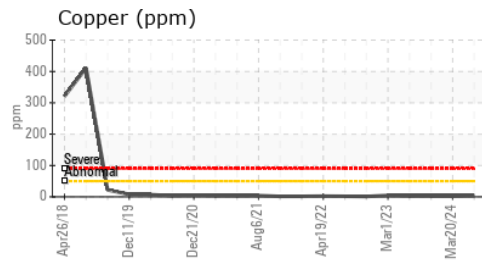
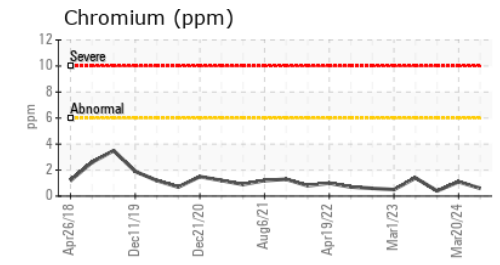
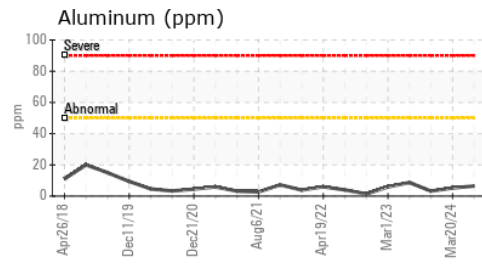
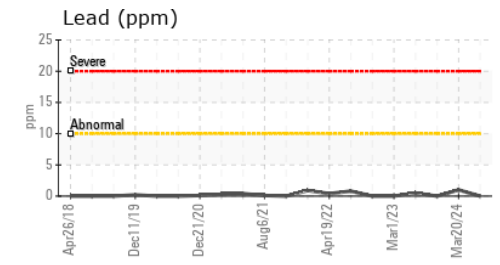
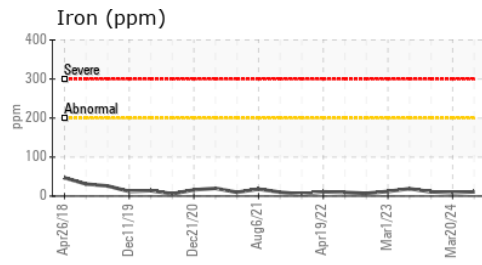
Viscosity @ 100°C



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	15.6	13.8	13.7	13.6

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0110132 **Received** : 06 Jun 2024
Lab Number : **06202131** **Tested** : 10 Jun 2024
Unique Number : 11069592 **Diagnosed** : 10 Jun 2024 - Don Baldrige
Test Package : MOB 2

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 WALPOLE, MA
 US 02081
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 T: (508)668-2603
 F: (508)660-0232

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)