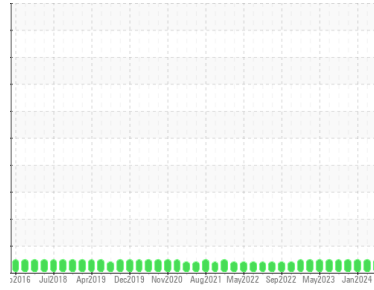




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area

[1031434]

Machine Id

LCL-10 ENGINE 1

Component

Front Diesel Engine

Fluid

PHILLIPS 66 Fleet Supreme EC 15W40 (--- 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	WC0935314	WC0908046	WC0803173
Sample Date	Client Info	20 Jun 2024	19 Mar 2024	24 Jan 2024
Machine Age	hrs	7238	7118	0
Oil Age	hrs	210	90	0
Oil Changed	Client Info	Changed	Not Changd	N/A
Sample Status		NORMAL	NORMAL	NORMAL

CONTAMINATION

method	limit/base	current	history1	history2
Fuel	WC Method >5	<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 >100	4	3	7
Chromium	ppm ASTM D5185m >20	<1	0	<1
Nickel	ppm ASTM D5185m >4	0	0	0
Titanium	ppm ASTM D5185m	<1	<1	<1
Silver	ppm ASTM D5185m >3	0	0	0
Aluminum	ppm ASTM D5185m >20	3	2	3
Lead	ppm ASTM D5185m >40	<1	<1	<1
Copper	ppm ASTM D5185m >330	<1	<1	<1
Tin	ppm ASTM D5185m >15	0	0	<1
Vanadium	ppm ASTM D5185m	0	<1	<1
Cadmium	ppm ASTM D5185m	0	0	<1

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m	78	75	63
Barium	ppm ASTM D5185m	0	0	0
Molybdenum	ppm ASTM D5185m	111	86	75
Manganese	ppm ASTM D5185m	0	0	<1
Magnesium	ppm ASTM D5185m	23	23	42
Calcium	ppm ASTM D5185m	2747	2426	2082
Phosphorus	ppm ASTM D5185m 1116	1195	1079	1025
Zinc	ppm ASTM D5185m 1250	1573	1211	1144
Sulfur	ppm ASTM D5185m	4645	4623	3441

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	3	3	3
Sodium	ppm ASTM D5185m	1	2	2
Potassium	ppm ASTM D5185m >20	2	0	0

INFRA-RED

method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >3	0.2	0.1	0.2
Nitration	Abs/cm *ASTM D7624 >20	8.2	7.5	8.3
Sulfation	Abs/.1mm *ASTM D7415 >30	17.5	17.1	17.9

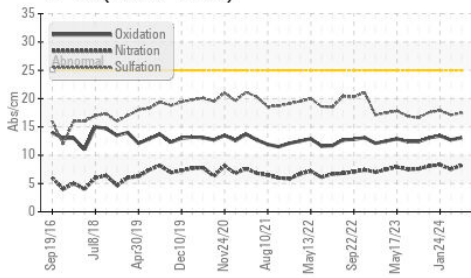
FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	13.1	12.7	13.4
Base Number (BN)	mg KOH/g ASTM D2896 9.7	10.28	7.1	7.0

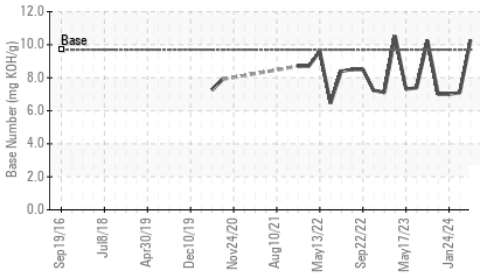


OIL ANALYSIS REPORT

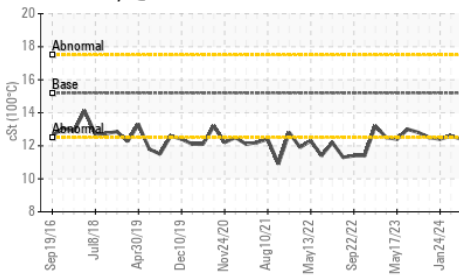
FT-IR (Direct Trend)



Base Number



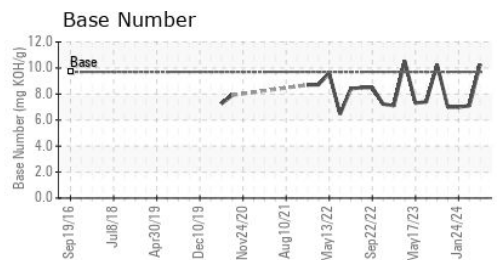
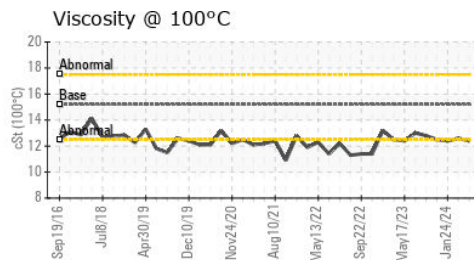
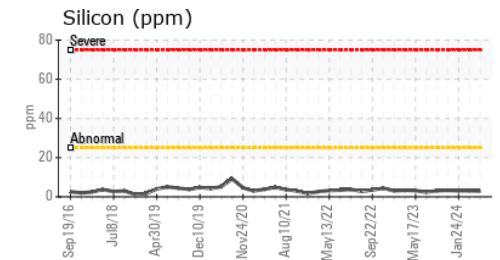
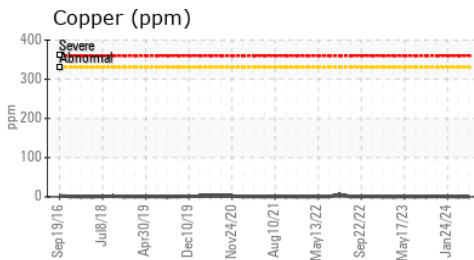
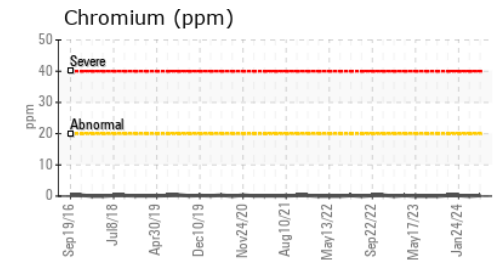
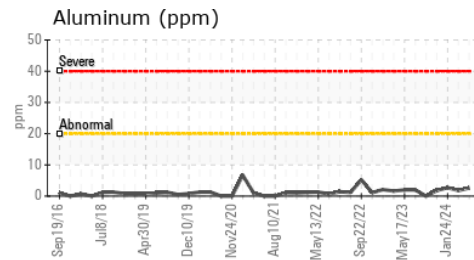
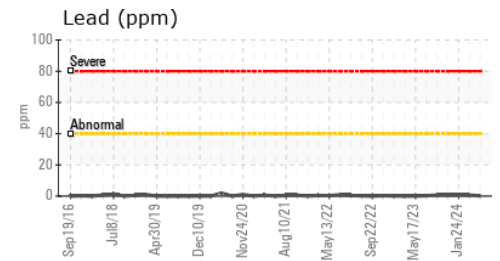
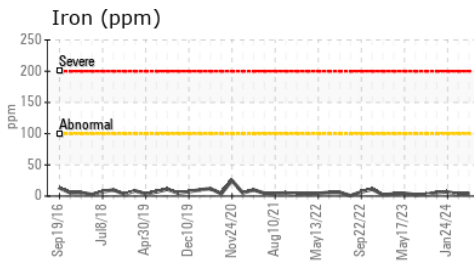
Viscosity @ 100°C



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	15.2	12.4	12.6

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0935314
Lab Number : 06221436
Unique Number : 11099633
Test Package : MOB 2

Received : 26 Jun 2024
Tested : 27 Jun 2024
Diagnosed : 27 Jun 2024 - Sean Felton

AES USA - NORTH CHARLESTON
 5400 INTERNATIONAL BLVD, BLDG 88-20
 NORTH CHARLESTON, SC
 US 29418

Contact: Maxime Banctel
 maxime.banctel@aes-gse.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)

T:
 F: x: