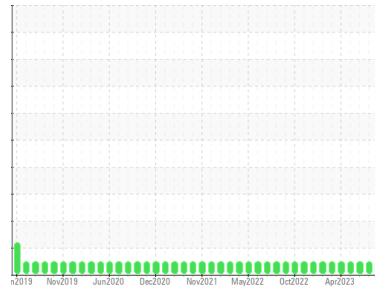




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
E 0110A E 0110A

Component
Diesel Engine

Fluid
DIESEL ENGINE OIL SAE 15W40 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

Fuel content negligible. 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	HLC0001477	HLC0002643	HLC0002538
Sample Date	Client Info	03 Oct 2023	05 Sep 2023	06 Aug 2023
Machine Age	hrs	Client Info	0	0
Oil Age	hrs	Client Info	0	0
Oil Changed	Client Info	N/A	N/A	N/A
Sample Status		NORMAL	NORMAL	NORMAL

CONTAMINATION

method	limit/base	current	history1	history2
Fuel	WC Method >3.0	<1.0	<1.0	<1.0
Glycol	WC Method	NEG	NEG	NEG

WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185m >90	4	4	4
Chromium	ppm ASTM D5185m >20	<1	0	0
Nickel	ppm ASTM D5185m >2	<1	0	0
Titanium	ppm ASTM D5185m >2	0	0	0
Silver	ppm ASTM D5185m >2	0	0	0
Aluminum	ppm ASTM D5185m >20	0	<1	<1
Lead	ppm ASTM D5185m >40	1	<1	<1
Copper	ppm ASTM D5185m >330	2	2	1
Tin	ppm ASTM D5185m >15	<1	0	0
Vanadium	ppm ASTM D5185m	0	<1	0
Cadmium	ppm ASTM D5185m	0	0	<1

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 250	151	173	201
Barium	ppm ASTM D5185m 10	0	0	0
Molybdenum	ppm ASTM D5185m 100	117	113	115
Manganese	ppm ASTM D5185m	<1	<1	<1
Magnesium	ppm ASTM D5185m 450	980	1037	1102
Calcium	ppm ASTM D5185m 3000	485	528	543
Phosphorus	ppm ASTM D5185m 1150	894	897	943
Zinc	ppm ASTM D5185m 1350	1086	1094	1147
Sulfur	ppm ASTM D5185m 4250	3461	3475	3795

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	6	6	6
Sodium	ppm ASTM D5185m >158	0	1	2
Potassium	ppm ASTM D5185m >20	<1	0	2

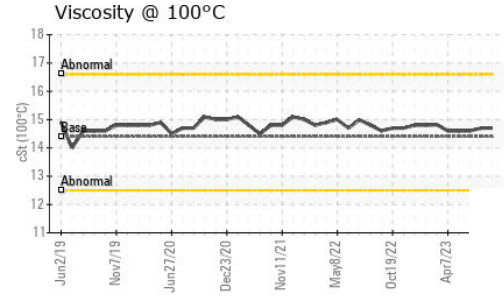
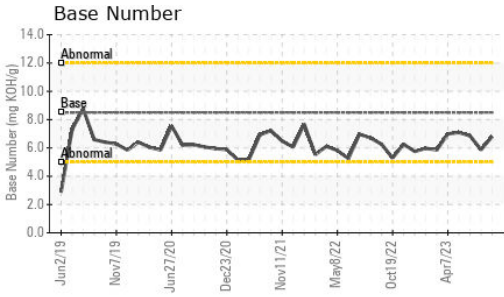
INFRA-RED

method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >6	0.1	0.1	0
Nitration	Abs/cm *ASTM D7624 >20	4.6	4.7	4.6
Sulfation	Abs/.1mm *ASTM D7415 >30	16.4	15.6	15.7

FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	9.6	8.9	9.2
Base Number (BN)	mg KOH/g ASTM D2896 8.5	6.80	5.87	6.86

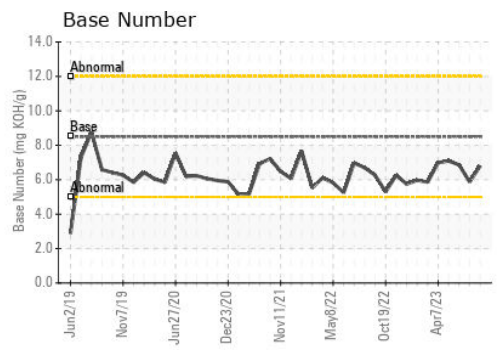
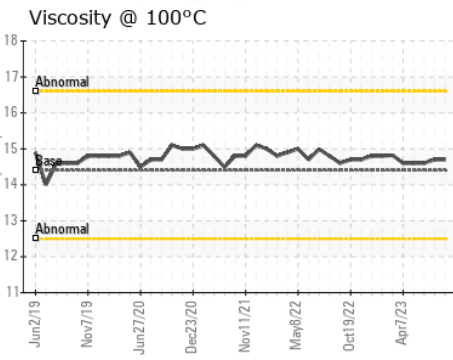
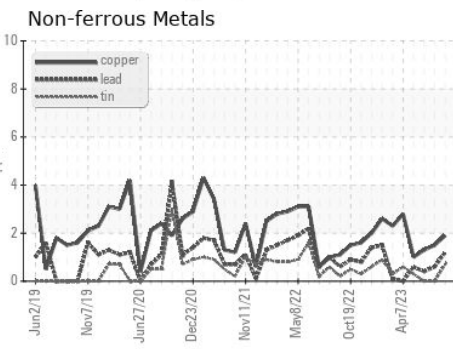
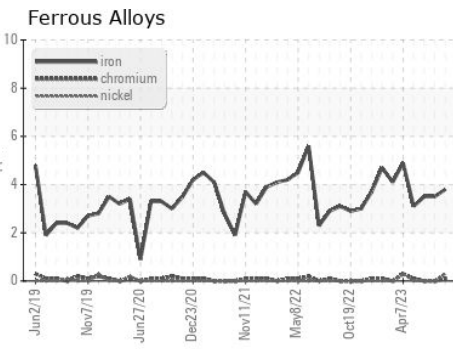
OIL ANALYSIS REPORT



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	14.4	14.7	14.7	14.6

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : HLC0001477 **Received** : 13 Oct 2023
Lab Number : **05979092** **Diagnosed** : 17 Oct 2023
Unique Number : 10696387 **Diagnostician** : Don Baldrige
Test Package : IND 2

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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)