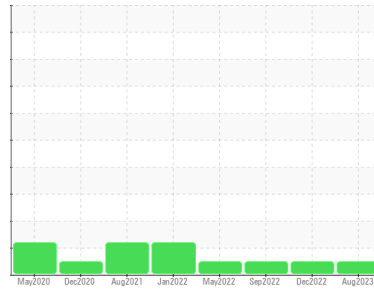




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
22005

Component
Diesel Engine

Fluid
SHELL ROTELLA T 15W40 (--- QTS)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

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			IL0027464	IL0027669	IL0027772
Sample Date	Client Info			08 Aug 2023	30 Dec 2022	09 Sep 2022
Machine Age	mls	Client Info		442459	416233	378051
Oil Age	mls	Client Info		26226	38182	43274
Oil Changed	Client Info			Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel	WC Method	>5		<1.0	<1.0	<1.0
Glycol	WC Method			NEG	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	51	20	32
Chromium	ppm	ASTM D5185m	>20	1	<1	2
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>3	0	0	<1
Aluminum	ppm	ASTM D5185m	>20	7	4	4
Lead	ppm	ASTM D5185m	>40	2	3	4
Copper	ppm	ASTM D5185m	>330	1	1	1
Tin	ppm	ASTM D5185m	>15	<1	<1	1
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		0	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	316	22	103	18
Barium	ppm	ASTM D5185m	0.0	0	0	0
Molybdenum	ppm	ASTM D5185m	1.2	89	88	84
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	24	42	44	38
Calcium	ppm	ASTM D5185m	2292	2196	2286	2212
Phosphorus	ppm	ASTM D5185m	1064	919	967	982
Zinc	ppm	ASTM D5185m	1160	1145	1204	1221
Sulfur	ppm	ASTM D5185m	4996	4107	3791	3418

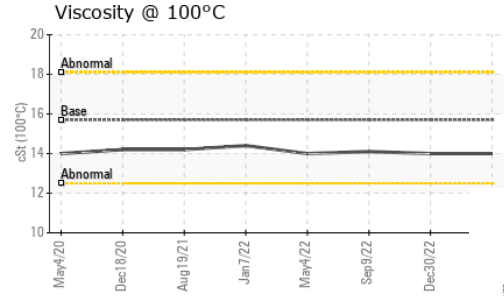
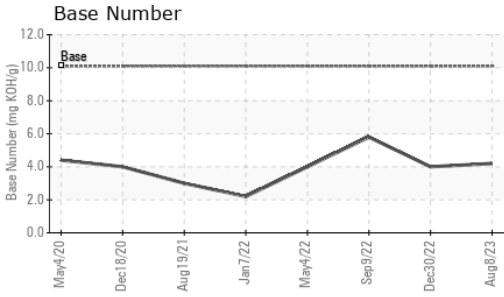
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	5	5	5
Sodium	ppm	ASTM D5185m		3	<1	3
Potassium	ppm	ASTM D5185m	>20	12	6	5

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	0.3	0.4	0.6
Nitration	Abs/cm	*ASTM D7624	>20	12.5	11.9	12.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	26.5	27.4	25.3

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	22.8	23.6	20.3
Base Number (BN)	mg KOH/g	ASTM D2896	10.1	4.2	4	5.8



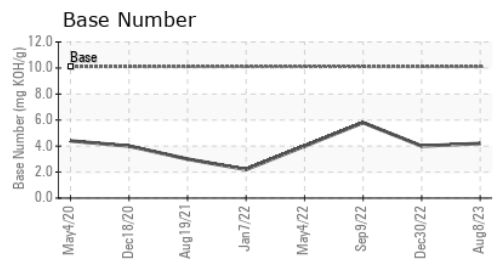
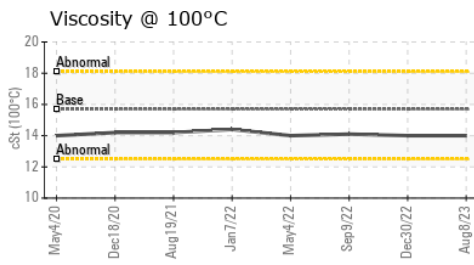
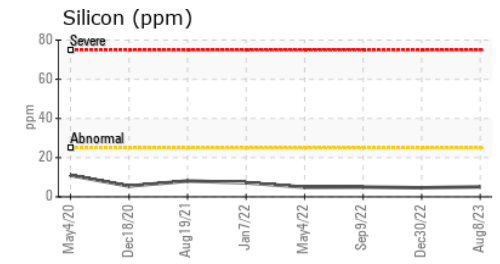
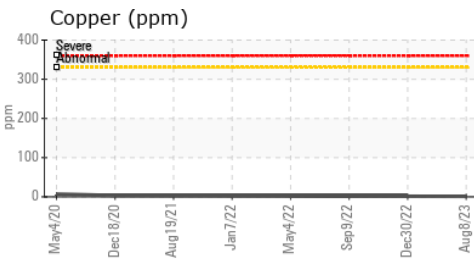
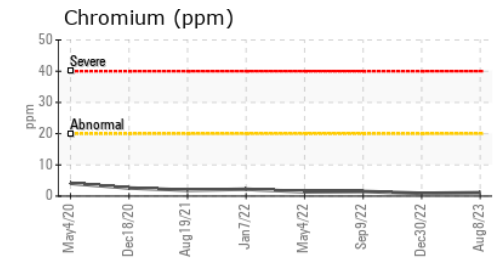
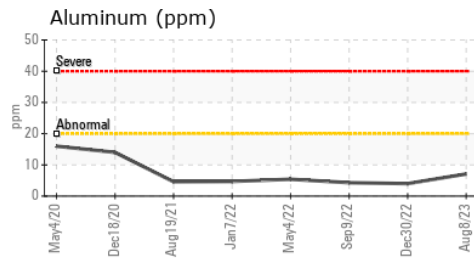
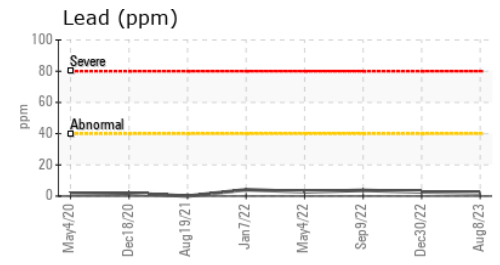
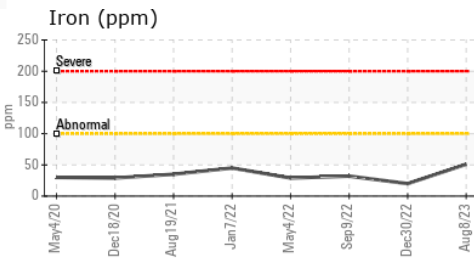
OIL ANALYSIS REPORT



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	14.0	14.1

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : IL0027464 **Received** : 22 Aug 2023
Lab Number : 05930608 **Diagnosed** : 22 Aug 2023
Unique Number : 10615879 **Diagnostician** : Wes Davis
Test Package : MOB1+

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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)