



OIL ANALYSIS REPORT

WEAR	SEVERE
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
M32012
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 15W40 (--- QTS)

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		DC0034167	DC0032138	DC0028338
Sample Date		Client Info		24 Jun 2024	11 Jan 2024	28 Sep 2023
Machine Age	mls	Client Info		79628	61118	48942
Oil Age	mls	Client Info		4862	3745	0
Filter Age	mls	Client Info		4862	3745	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				SEVERE	NORMAL	NORMAL

WEAR

Piston, ring and cylinder wear is indicated.

Iron	ppm	ASTM D5185m	>100	▲ 323	72	52
Chromium	ppm	ASTM D5185m	>20	4	<1	<1
Nickel	ppm	ASTM D5185m	>4	2	<1	<1
Titanium	ppm	ASTM D5185m		6	21	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	▲ 29	10	10
Lead	ppm	ASTM D5185m	>40	<1	2	0
Copper	ppm	ASTM D5185m	>330	4	2	3
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m		<1	1	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

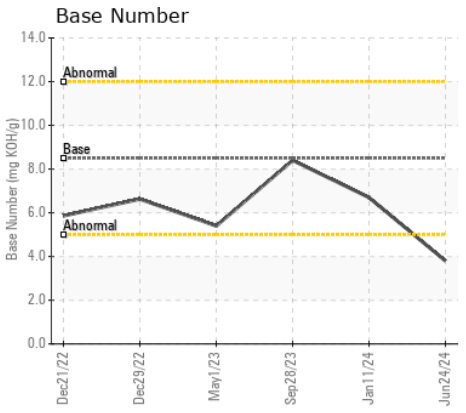
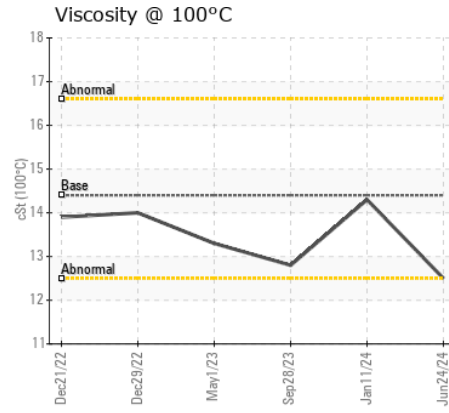
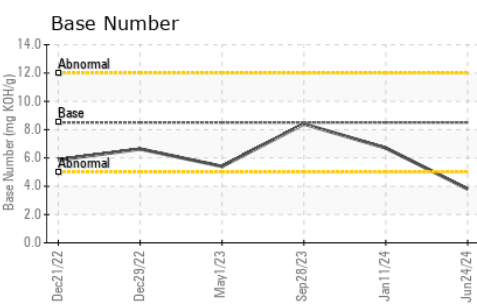
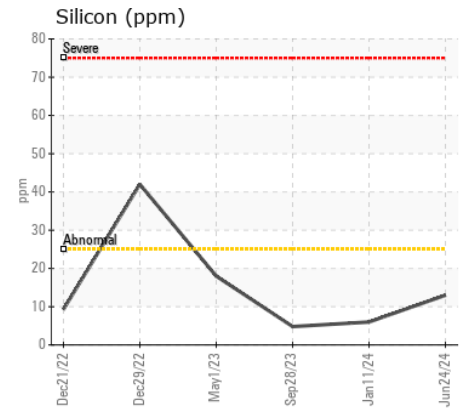
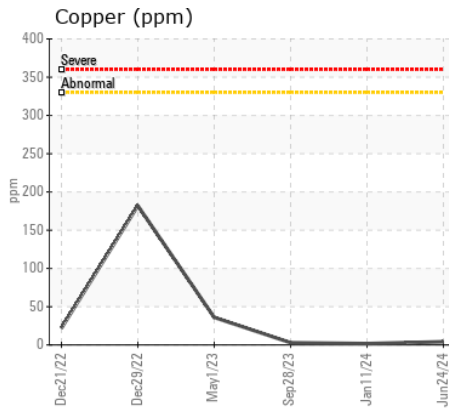
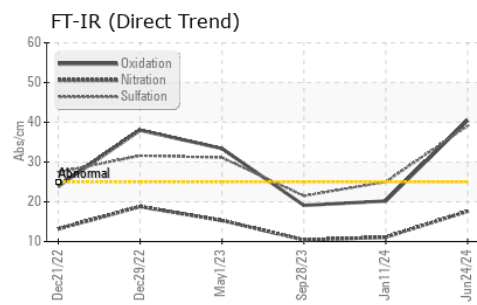
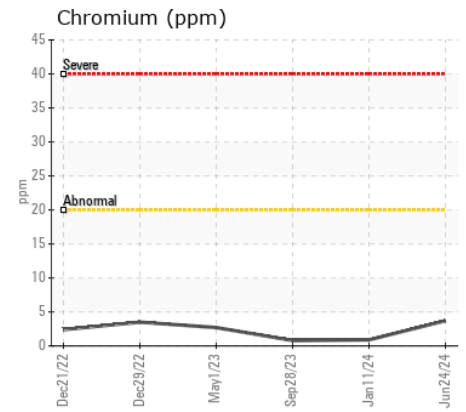
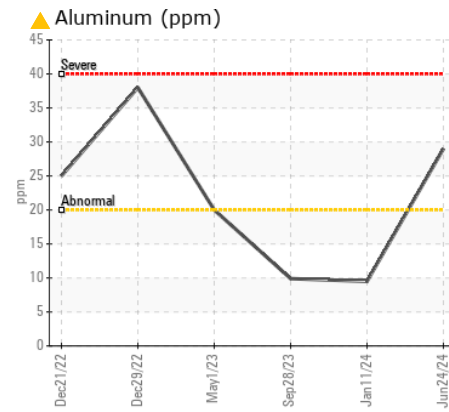
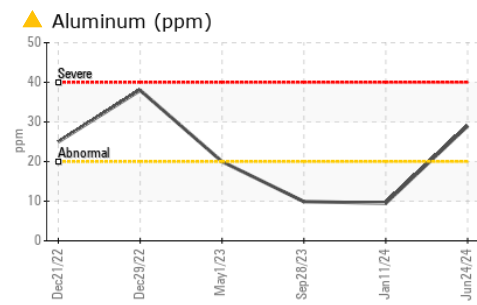
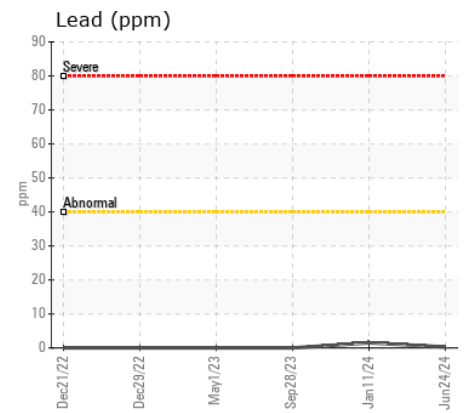
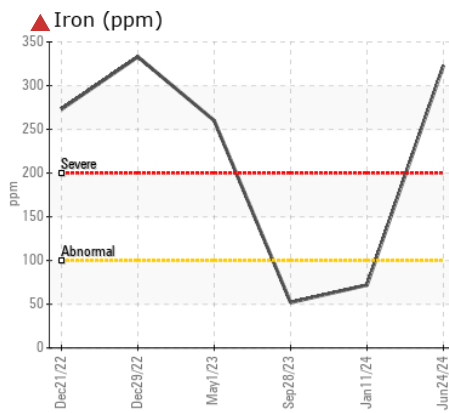
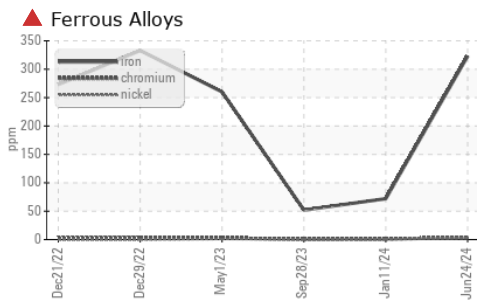
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	13	6	5
Potassium	ppm	ASTM D5185m	>20	17	8	14
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol	%	*ASTM D2982		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	2.5	0.7	0.7
Nitration	Abs/cm	*ASTM D7624	>20	17.6	11.1	10.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	39.1	25.0	21.5
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 is no longer serviceable as a result of the abnormal and/or severe wear.

Sodium	ppm	ASTM D5185m	>158	6	2	3
Boron	ppm	ASTM D5185m	250	50	43	4
Barium	ppm	ASTM D5185m	10	0	0	12
Molybdenum	ppm	ASTM D5185m	100	5	7	55
Manganese	ppm	ASTM D5185m		4	<1	1
Magnesium	ppm	ASTM D5185m	450	93	233	932
Calcium	ppm	ASTM D5185m	3000	2271	2025	1208
Phosphorus	ppm	ASTM D5185m	1150	952	965	1078
Zinc	ppm	ASTM D5185m	1350	1220	1095	1337
Sulfur	ppm	ASTM D5185m	4250	3140	3019	3201
Oxidation	Abs/.1mm	*ASTM D7414	>25	40.5	20.2	19.1
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	3.8	6.7	8.4
Visc @ 100°C	cSt	ASTM D445	14.4	12.5	14.3	12.8



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : DC0034167 **Received** : 10 Jul 2024
Lab Number : 06232113 **Tested** : 11 Jul 2024
Unique Number : 11115606 **Diagnosed** : 11 Jul 2024 - Don Baldridge
Test Package : MOB 1 (Additional Tests: Glycol, TBN)
 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)

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