



OIL ANALYSIS REPORT

WEAR	ATTENTION
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL



Machine Id
R1
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 15W30 (--- GAL)

RECOMMENDATION

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0874284	WC0784017	WC0783994
Sample Date		Client Info		23 Jan 2024	20 Sep 2023	03 May 2023
Machine Age	hrs	Client Info		13625	12828	12200
Oil Age	hrs	Client Info		510	826	603
Filter Age	hrs	Client Info		510	826	603
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	SEVERE	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>120	36	73	15
Chromium	ppm	ASTM D5185m	>20	2	4	<1
Nickel	ppm	ASTM D5185m	>5	0	0	0
Titanium	ppm	ASTM D5185m	>2	<1	2	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	▲ 8	▲ 27	6
Lead	ppm	ASTM D5185m	>40	2	6	<1
Copper	ppm	ASTM D5185m	>330	3	4	4
Tin	ppm	ASTM D5185m	>15	1	<1	<1
Vanadium	ppm	ASTM D5185m		<1	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

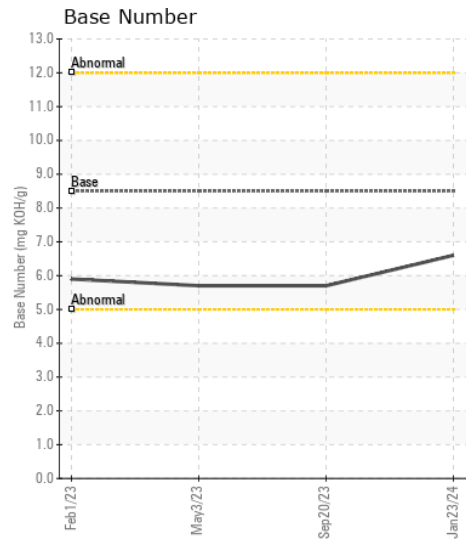
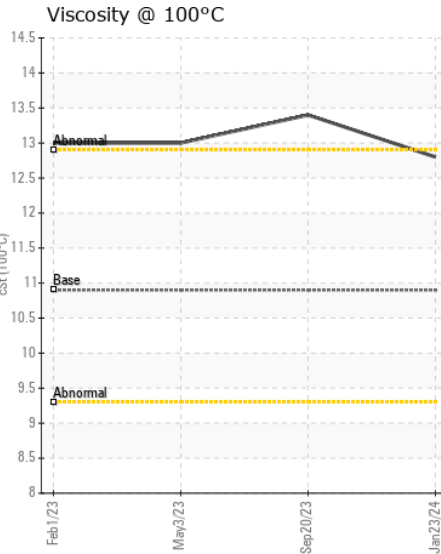
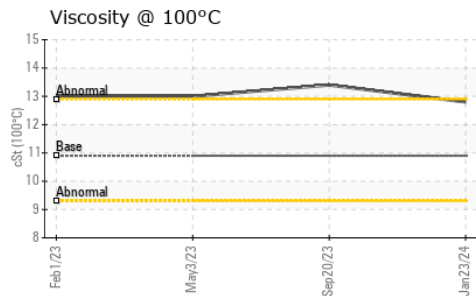
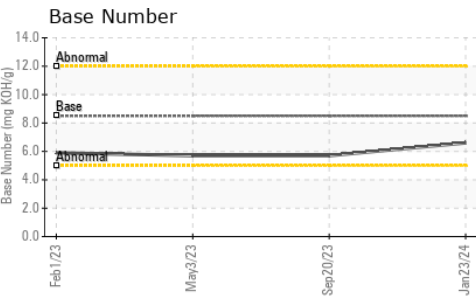
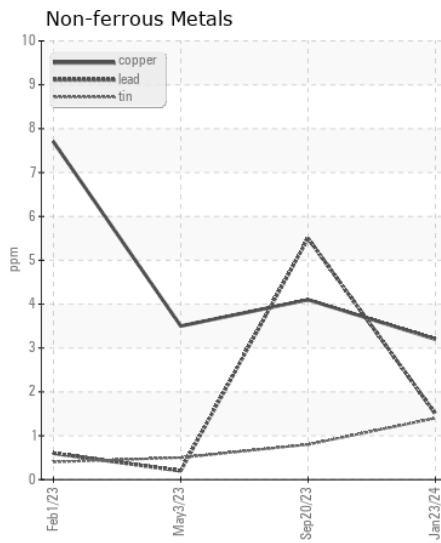
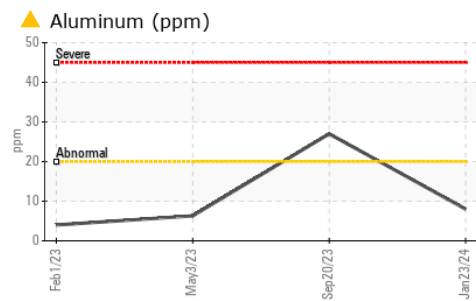
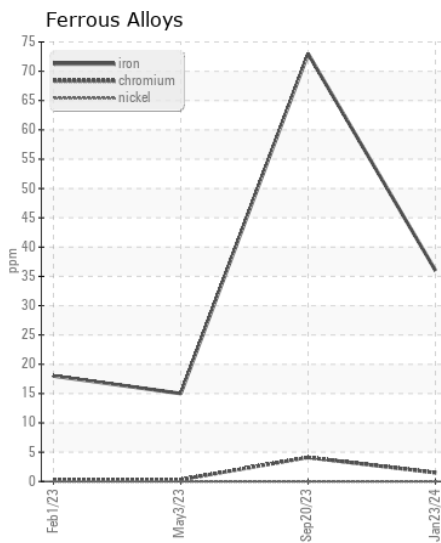
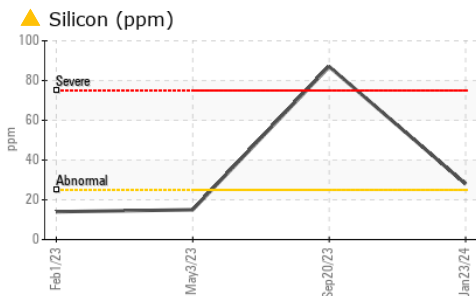
Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

Silicon	ppm	ASTM D5185m	>25	▲ 28	▲ 87	15
Potassium	ppm	ASTM D5185m	>20	1	9	0
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
Soot %	%	*ASTM D7844	>4	0.6	0.5	0.4
Nitration	Abs/cm	*ASTM D7624	>20	9.5	9.7	9.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.2	20.7	20.8
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 BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185m	>25	7	14	5
Boron	ppm	ASTM D5185m	250	6	19	32
Barium	ppm	ASTM D5185m	10	0	0	0
Molybdenum	ppm	ASTM D5185m	100	59	85	82
Manganese	ppm	ASTM D5185m		<1	<1	0
Magnesium	ppm	ASTM D5185m	450	778	128	132
Calcium	ppm	ASTM D5185m	3000	1195	2285	2020
Phosphorus	ppm	ASTM D5185m	1150	936	1068	937
Zinc	ppm	ASTM D5185m	1350	1145	1342	1166
Sulfur	ppm	ASTM D5185m	4250	2739	4724	3792
Oxidation	Abs/.1mm	*ASTM D7414	>25	15.2	15.6	14.9
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	6.6	5.7	5.7
Visc @ 100°C	cSt	ASTM D445	10.9	12.8	13.4	13.0



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0874284 **Received** : 08 Feb 2024
Lab Number : 06084252 **Tested** : 09 Feb 2024
Unique Number : 10871697 **Diagnosed** : 12 Feb 2024 - Don Baldrige
Test Package : CONST (Additional Tests: TBN)

Apple Valley Waste - EHT Location
 6626 Delilah Road
 Egg Harbor Township, NJ
 US 08234
 Contact: Service Manager

Certificate L2367
 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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