



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	ABNORMAL

Machine Id
5018907
Component
Diesel Engine
Fluid
VALVOLINE 15W40 (--- GAL)

RECOMMENDATION

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		IL0028431	IL0033251	IL05900938
Sample Date		Client Info		08 Jan 2024	02 Oct 2023	26 Jun 2023
Machine Age	mls	Client Info		213871	180030	166532
Oil Age	mls	Client Info		0	0	0
Filter Age	mls	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	N/A
Filter Changed		Client Info		Changed	Changed	N/A
Sample Status				ABNORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	84	18	13
Chromium	ppm	ASTM D5185m	>20	3	<1	<1
Nickel	ppm	ASTM D5185m	>4	1	0	0
Titanium	ppm	ASTM D5185m		2	<1	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	15	9	5
Lead	ppm	ASTM D5185m	>40	0	0	0
Copper	ppm	ASTM D5185m	>330	3	0	<1
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m		<1	0	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

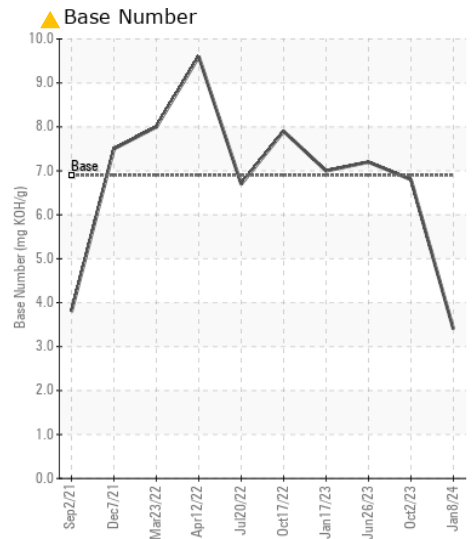
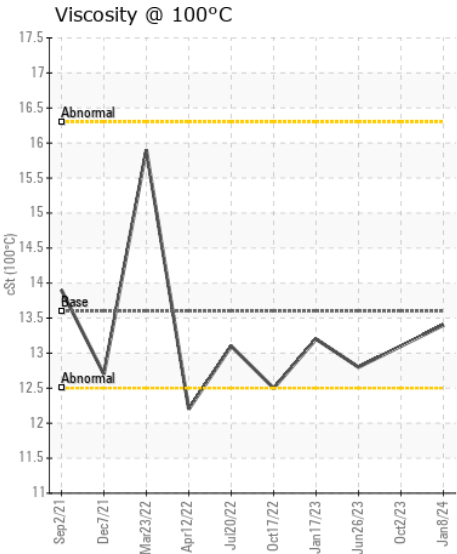
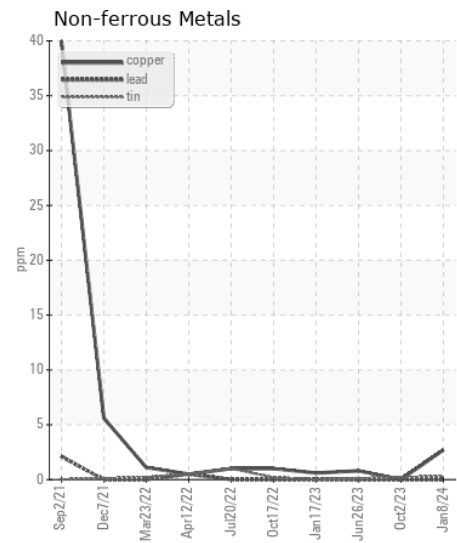
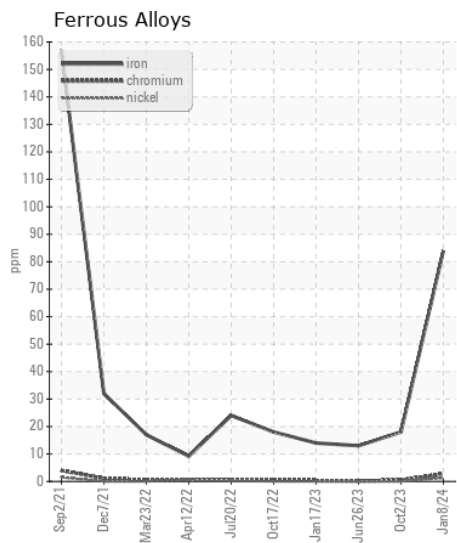
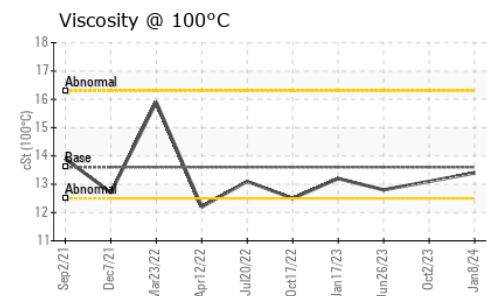
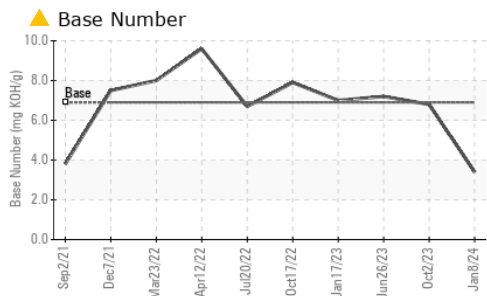
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	13	9	6
Potassium	ppm	ASTM D5185m	>20	13	7	3
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.7	0.7	0.4
Nitration	Abs/cm	*ASTM D7624	>20	16.0	12.5	9.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	32.1	23.1	22.1
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 level is low. The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185m		10	2	2
Boron	ppm	ASTM D5185m	39	32	54	150
Barium	ppm	ASTM D5185m	1	0	0	0
Molybdenum	ppm	ASTM D5185m	49	121	83	83
Manganese	ppm	ASTM D5185m	1	2	<1	<1
Magnesium	ppm	ASTM D5185m	616	1140	738	556
Calcium	ppm	ASTM D5185m	1554	2063	1480	1442
Phosphorus	ppm	ASTM D5185m	899	1349	980	966
Zinc	ppm	ASTM D5185m	1069	1782	1219	1187
Sulfur	ppm	ASTM D5185m	2624	4252	3000	3523
Oxidation	Abs/.1mm	*ASTM D7414	>25	34.4	20.3	17.6
Base Number (BN)	mg KOH/g	ASTM D2896	6.9	3.4	6.8	7.2
Visc @ 100°C	cSt	ASTM D445	13.6	13.4	13.1	12.8



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : IL0028431
Lab Number : 06104092
Unique Number : 10902322
Test Package : FLEET
Received : 29 Feb 2024
Tested : 29 Feb 2024
Diagnosed : 02 Mar 2024 - Don Baldrige

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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)