



WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Machine Id
INTERNATIONAL 5012908
Component
Diesel Engine
Fluid
VALVOLINE 15W40 (--- GAL)

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		IL0035107	IL05966140	IL05900941
Sample Date		Client Info		24 Dec 2023	26 Sep 2023	23 Jun 2023
Machine Age	mls	Client Info		301383	288692	275382
Oil Age	mls	Client Info		0	0	0
Filter Age	mls	Client Info		0	0	0
Oil Changed		Client Info		Changed	N/A	N/A
Filter Changed		Client Info		Changed	N/A	N/A
Sample Status				ABNORMAL	ABNORMAL	SEVERE

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	14	23	26
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	<1	<1
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	4	8	14
Lead	ppm	ASTM D5185m	>40	0	<1	0
Copper	ppm	ASTM D5185m	>330	1	5	2
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

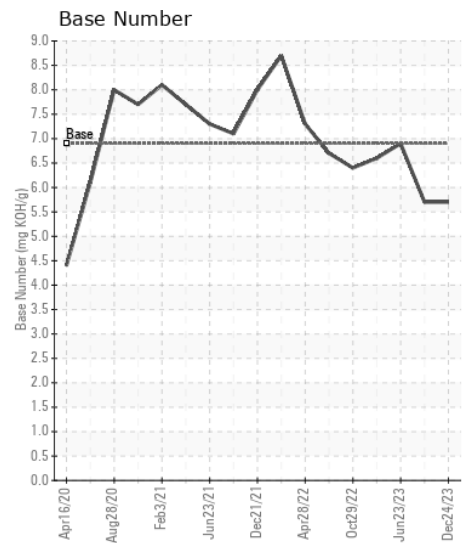
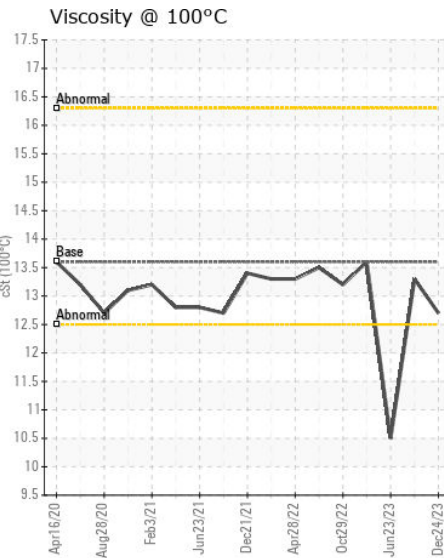
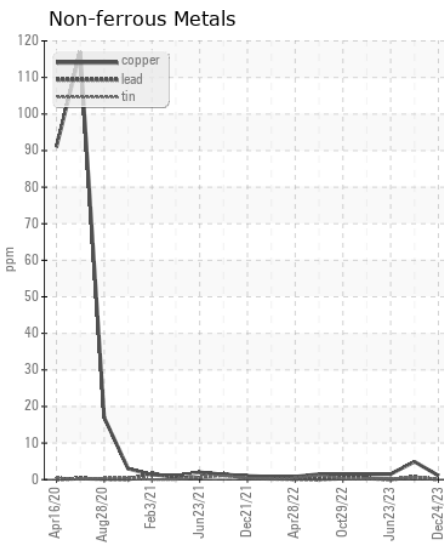
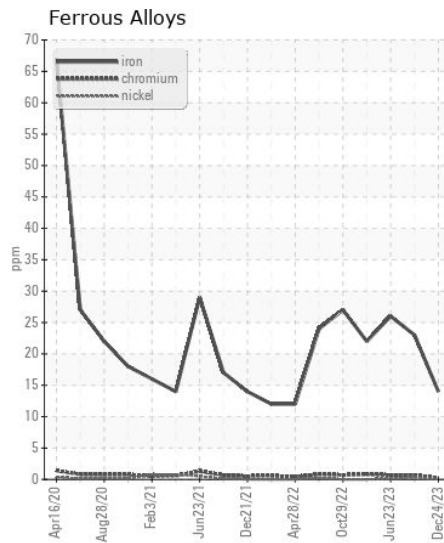
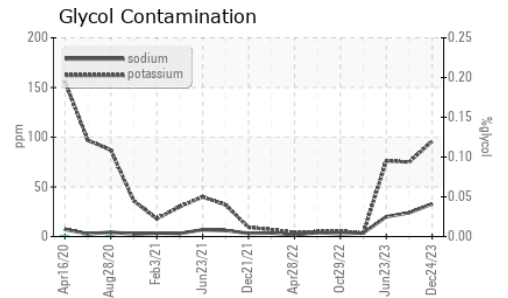
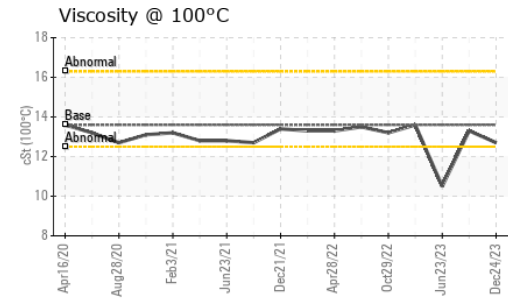
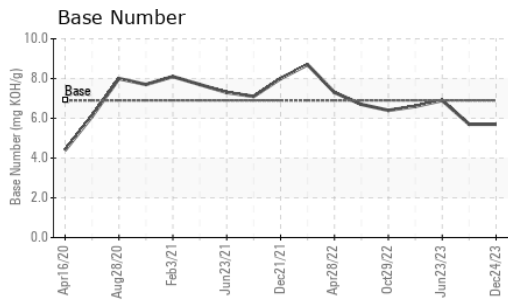
Sodium and/or potassium levels remain high. Test for glycol is negative.

Silicon	ppm	ASTM D5185m	>25	5	7	7
Potassium	ppm	ASTM D5185m	>20	▲ 96	▲ 75	▲ 76
Fuel		WC Method	>5	<1.0	0.9	10.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol	%	*ASTM D2982		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.4	0.5	1.6
Nitration	Abs/cm	*ASTM D7624	>20	10.4	10.5	13.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	22.3	22.0	26.7
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		33	24	20
Boron	ppm	ASTM D5185m	39	67	65	46
Barium	ppm	ASTM D5185m	1	0	0	0
Molybdenum	ppm	ASTM D5185m	49	82	93	84
Manganese	ppm	ASTM D5185m	1	<1	1	<1
Magnesium	ppm	ASTM D5185m	616	581	765	483
Calcium	ppm	ASTM D5185m	1554	1279	1539	1367
Phosphorus	ppm	ASTM D5185m	899	857	989	899
Zinc	ppm	ASTM D5185m	1069	1059	1250	1117
Sulfur	ppm	ASTM D5185m	2624	2761	3162	3241
Oxidation	Abs/.1mm	*ASTM D7414	>25	19.4	18.9	22.9
Base Number (BN)	mg KOH/g	ASTM D2896	6.9	5.7	5.7	6.9
Visc @ 100°C	cSt	ASTM D445	13.6	12.7	13.3	▲ 10.5



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : IL0035107 **Received** : 10 Jan 2024
Lab Number : 06056420 **Diagnosed** : 11 Jan 2024
Unique Number : 10822369 **Diagnostician** : Jonathan Hester
Test Package : FLEET (Additional Tests: Glycol)

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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)