



WEAR	NORMAL
CONTAMINATION	MARGINAL
FLUID CONDITION	ATTENTION



Machine Id
CATERPILLAR 216-1003
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 15W40 (--- GAL)

RECOMMENDATION

We advise that you check for the source of the coolant leak. The oil 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		PC0072509	PC0043390	PC0043281
Sample Date		Client Info		21 Dec 2023	17 Jan 2022	27 Jan 2021
Machine Age	hrs	Client Info		2734	2387	2287
Oil Age	hrs	Client Info		347	100	271
Filter Age	hrs	Client Info		347	100	271
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ATTENTION	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>100	36	14	12
Chromium	ppm	ASTM D5185(m)	>20	<1	<1	<1
Nickel	ppm	ASTM D5185(m)	>2	<1	<1	<1
Titanium	ppm	ASTM D5185(m)	>2	0	0	0
Silver	ppm	ASTM D5185(m)	>2	0	0	0
Aluminum	ppm	ASTM D5185(m)	>25	4	2	1
Lead	ppm	ASTM D5185(m)	>40	<1	<1	<1
Copper	ppm	ASTM D5185(m)	>330	4	<1	<1
Tin	ppm	ASTM D5185(m)	>15	0	<1	0
Vanadium	ppm	ASTM D5185(m)		0	0	0
White Metal	scalar	Visual*	NONE	VLITE	NONE	VLITE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	NONE

CONTAMINATION

Test for glycol is positive. There is a light concentration of glycol present in the oil.

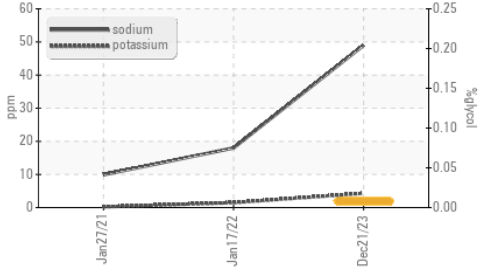
Silicon	ppm	ASTM D5185(m)	>25	6	6	6
Potassium	ppm	ASTM D5185(m)	>20	4	2	<1
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol	%	ASTM D7922*		▲ 0.012	NEG	NEG
Soot %	%	ASTM D7844*	>3	0.4	0	0.1
Nitration	Abs/cm	ASTM D7624*	>20	8.6	5.9	5.1
Sulfation	Abs/.1mm	ASTM D7415*	>30	19.0	19.1	17.7
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

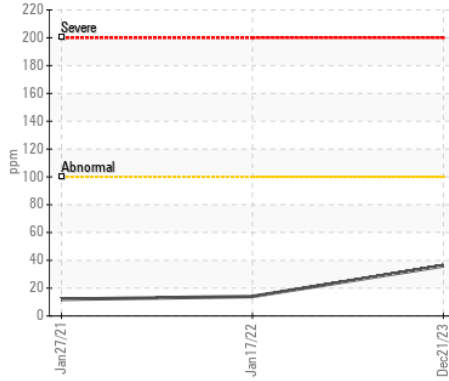
The condition of the oil is acceptable for the time in service. The oil is no longer serviceable due to the presence of contaminants.

Sodium	ppm	ASTM D5185(m)	>158	▲ 49	18	10
Boron	ppm	ASTM D5185(m)	250	5	3	5
Barium	ppm	ASTM D5185(m)	10	0	0	0
Molybdenum	ppm	ASTM D5185(m)	100	58	62	57
Manganese	ppm	ASTM D5185(m)		<1	<1	<1
Magnesium	ppm	ASTM D5185(m)	450	798	1018	940
Calcium	ppm	ASTM D5185(m)	3000	1322	1036	1015
Phosphorus	ppm	ASTM D5185(m)	1150	992	1068	984
Zinc	ppm	ASTM D5185(m)	1350	1203	1222	1211
Sulfur	ppm	ASTM D5185(m)	4250	2801	2659	2676
Oxidation	Abs/.1mm	ASTM D7414*	>25	15.3	13.6	12.7
Visc @ 40°C	cSt	ASTM D7279(m)	115	95.7	107	98.0
Visc @ 100°C	cSt	ASTM D7279(m)	14.4	13.7	14.4	13.6
Viscosity Index (VI)	Scale	ASTM D2270*	126	144	137	139

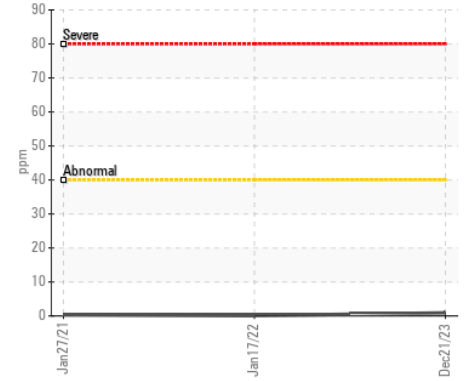
▲ Glycol Contamination



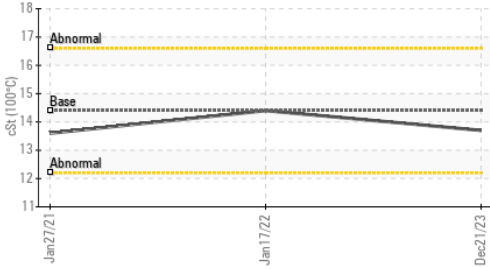
Iron (ppm)



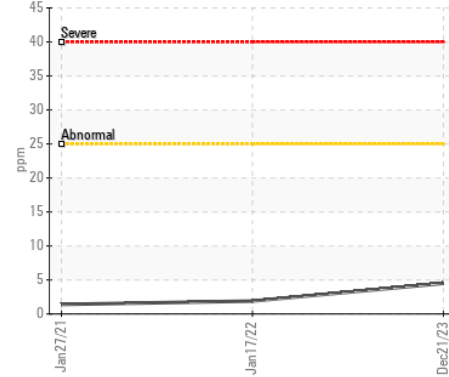
Lead (ppm)



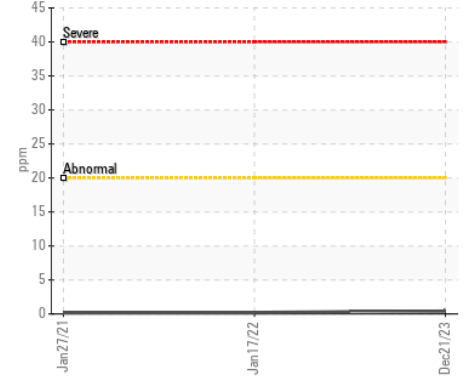
Viscosity @ 100°C



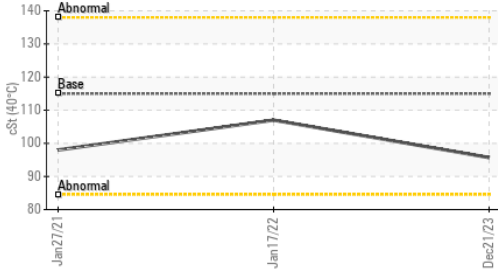
Aluminum (ppm)



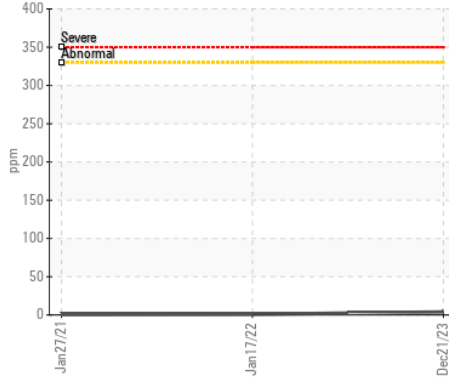
Chromium (ppm)



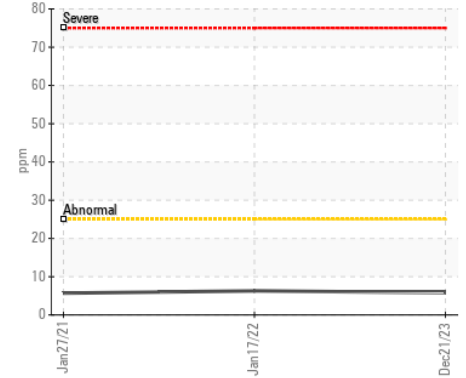
Viscosity @ 40°C



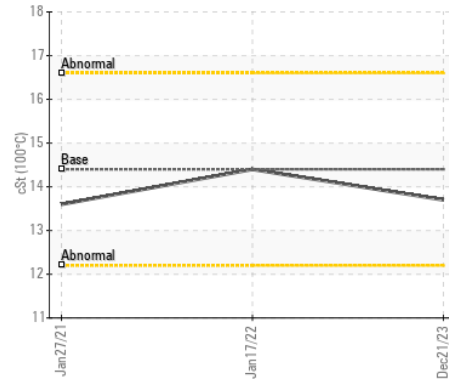
Copper (ppm)



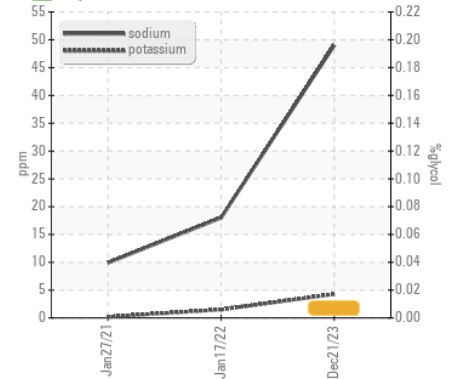
Silicon (ppm)



Viscosity @ 100°C



▲ Glycol Contamination



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0072509 **Received** : 08 Jan 2024
Lab Number : 02606903 **Diagnosed** : 09 Jan 2024
Unique Number : 5707989 **Diagnostician** : Wes Davis
Test Package : MOB 1 (Additional Tests: Glycol, KV40, VI, Visual)

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To discuss this sample report, contact Customer Service at 1-800-268-2131.
 Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.
 Validity of results and interpretation are based on the sample and information as supplied.