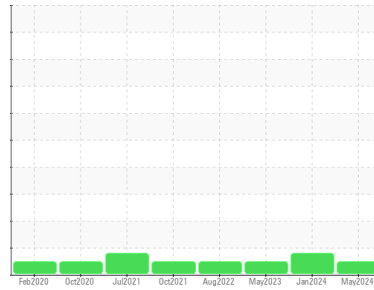


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
TB112
Component
Diesel Engine
Fluid
 DIESEL ENGINE OIL SAE 5W40 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			PC0089309	PC0082670	PC0075782
Sample Date	Client Info			15 May 2024	02 Jan 2024	23 May 2023
Machine Age	hrs	Client Info		5154	4939	4372
Oil Age	hrs	Client Info		0	0	0
Oil Changed	Client Info			Changed	Changed	N/A
Sample Status				NORMAL	ABNORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel	WC Method	>5		<1.0	<1.0	<1.0
Water	WC Method	>0.2		NEG	NEG	NEG
Glycol	WC Method			NEG	0.0	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>100	19	32	28
Chromium	ppm	ASTM D5185(m)	>20	<1	1	<1
Nickel	ppm	ASTM D5185(m)	>4	<1	<1	0
Titanium	ppm	ASTM D5185(m)		0	0	<1
Silver	ppm	ASTM D5185(m)	>3	0	0	0
Aluminum	ppm	ASTM D5185(m)	>20	2	▲ 34	18
Lead	ppm	ASTM D5185(m)	>40	2	<1	0
Copper	ppm	ASTM D5185(m)	>330	2	12	10
Tin	ppm	ASTM D5185(m)	>15	0	<1	<1
Antimony	ppm	ASTM D5185(m)		0	0	0
Vanadium	ppm	ASTM D5185(m)		0	0	0
Beryllium	ppm	ASTM D5185(m)		0	0	0
Cadmium	ppm	ASTM D5185(m)		0	0	0

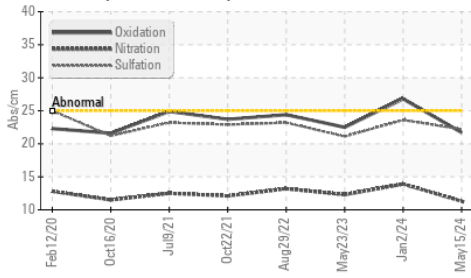
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	250	24	20	41
Barium	ppm	ASTM D5185(m)	10	0	0	0
Molybdenum	ppm	ASTM D5185(m)	100	60	58	61
Manganese	ppm	ASTM D5185(m)		<1	<1	<1
Magnesium	ppm	ASTM D5185(m)	450	1112	1093	1123
Calcium	ppm	ASTM D5185(m)	3000	856	812	875
Phosphorus	ppm	ASTM D5185(m)	1150	1015	978	1088
Zinc	ppm	ASTM D5185(m)	1350	1200	1177	1218
Sulfur	ppm	ASTM D5185(m)	4250	2718	2857	2830
Lithium	ppm	ASTM D5185(m)		<1	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	3	6	7
Sodium	ppm	ASTM D5185(m)	>44	5	5	5
Potassium	ppm	ASTM D5185(m)	>20	<1	14	5

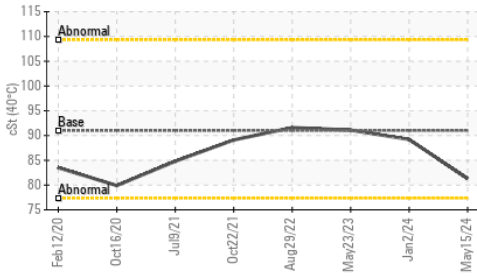
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>3	0.1	0.3	0.1
Nitration	Abs/cm	ASTM D7624*	>20	11.3	13.9	12.3
Sulfation	Abs/.1mm	ASTM D7415*	>30	22.2	23.6	21.1

OIL ANALYSIS REPORT

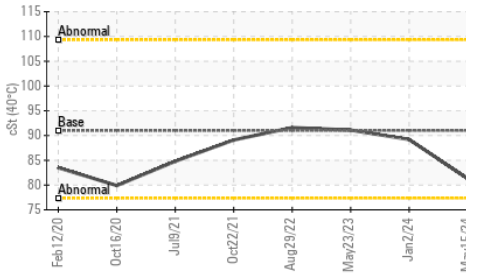
FT-IR (Direct Trend)



Viscosity @ 40°C



Viscosity @ 40°C



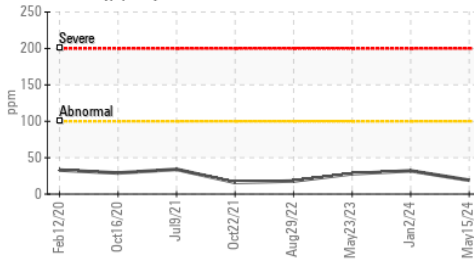
FLUID DEGRADATION	method	limit/base	current	history1	history2	
Oxidation	Abs./1mm	ASTM D7414*	>25	21.7	26.8	22.5

VISUAL	method	limit/base	current	history1	history2	
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	NEG
Free Water	scalar	Visual*		NEG	NEG	NEG

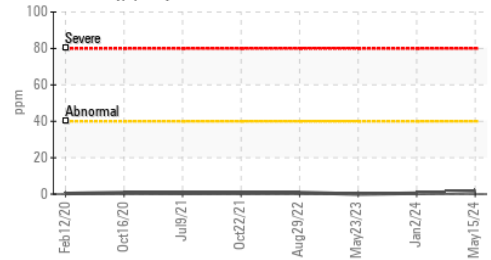
FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 40°C	cSt	ASTM D7279(m)	91	81.3	89.2	91.1
Visc @ 100°C	cSt	ASTM D7279(m)	14.4	13.1	14.3	14.5
Viscosity Index (VI)	Scale	ASTM D2270*	164	162	166	165

GRAPHS

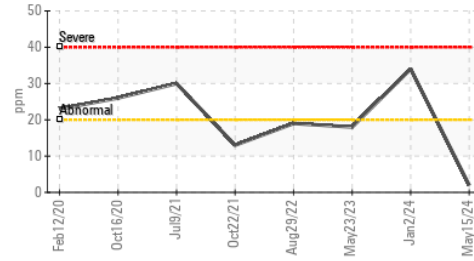
Iron (ppm)



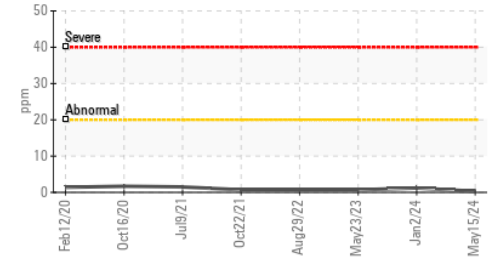
Lead (ppm)



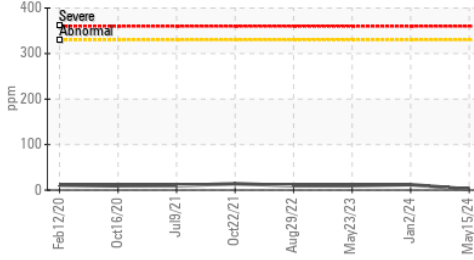
Aluminum (ppm)



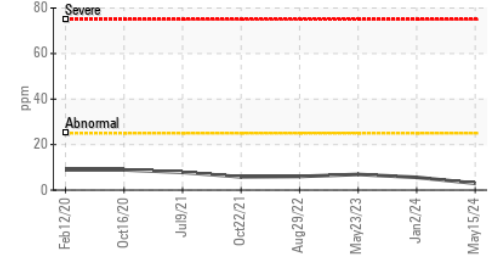
Chromium (ppm)



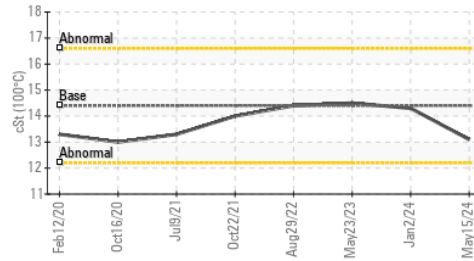
Copper (ppm)



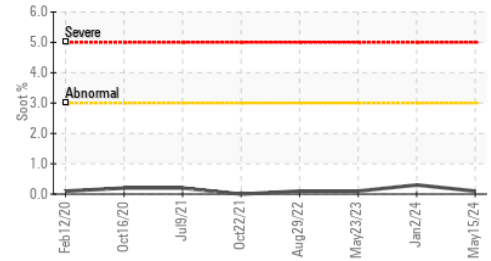
Silicon (ppm)



Viscosity @ 100°C



Soot %



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0089309
Lab Number : 02636334
Unique Number : 5785496
Test Package : MOB 1 (Additional Tests: KV40, VI)

Received : 17 May 2024
Tested : 17 May 2024
Diagnosed : 17 May 2024 - Wes Davis
 Green Infrastructure and Partners Inc (GIPI) - 286 - Shoring & Foundations
 151 Ram Forest Rd,
 Stouffville, ON
 CA L4A 2G8
 Contact: Bill Acton
 bacton@gipi.com

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.