



Machine Id
13180
Component
Front Diesel Engine
Fluid

CASTROL HYPURON ADVANCED FORMULA (40 LTR)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		PC0071334	PC0071878	PC0061029
Sample Date		Client Info		05 Mar 2024	28 Aug 2023	28 Sep 2022
Machine Age	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>120	25	18	51
Chromium	ppm	ASTM D5185(m)	>20	<1	<1	<1
Nickel	ppm	ASTM D5185(m)	>5	<1	<1	<1
Titanium	ppm	ASTM D5185(m)	>2	0	0	<1
Silver	ppm	ASTM D5185(m)	>2	0	<1	<1
Aluminum	ppm	ASTM D5185(m)	>20	3	1	4
Lead	ppm	ASTM D5185(m)	>40	2	<1	6
Copper	ppm	ASTM D5185(m)	>330	10	8	20
Tin	ppm	ASTM D5185(m)	>15	<1	0	<1
Vanadium	ppm	ASTM D5185(m)		0	0	0

CONTAMINATION

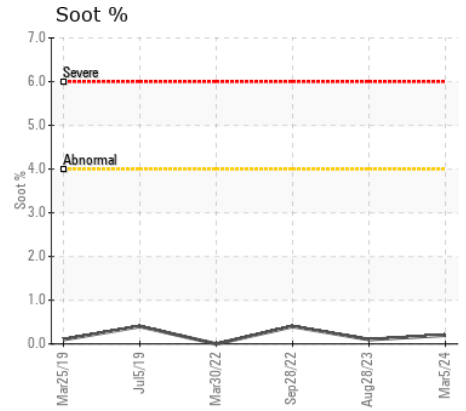
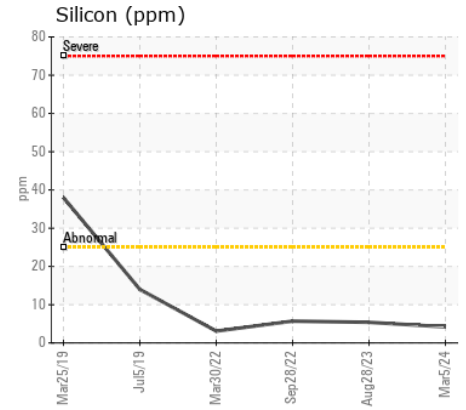
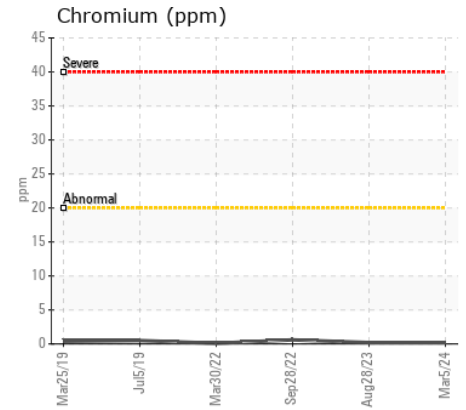
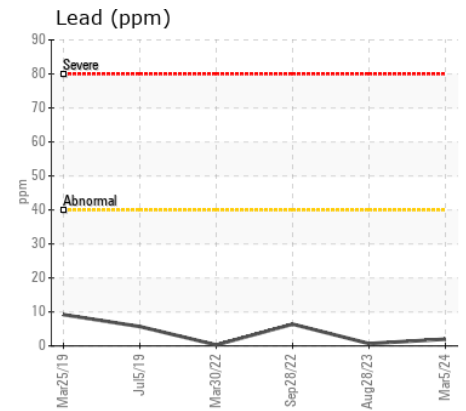
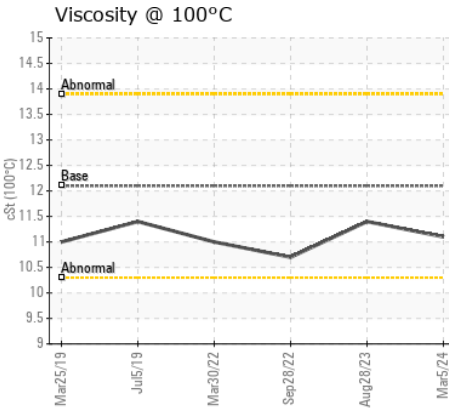
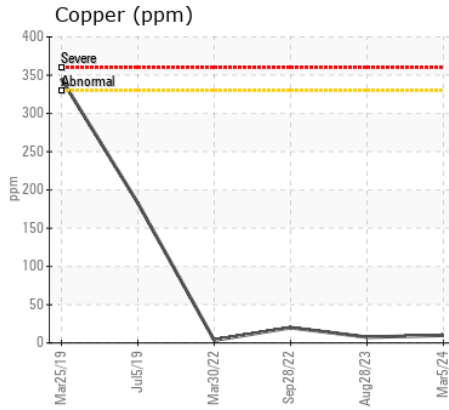
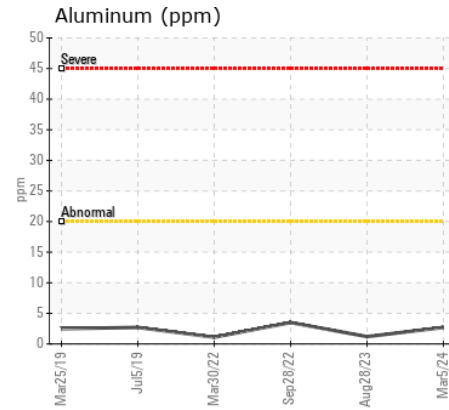
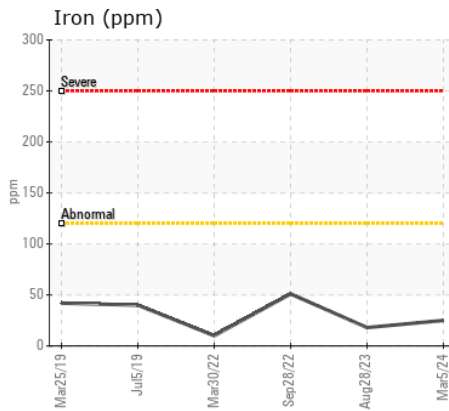
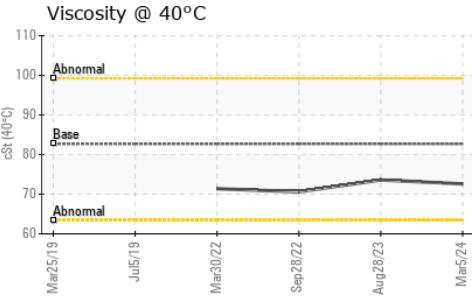
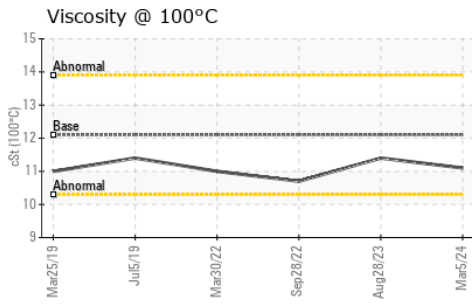
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185(m)	>25	4	5	6
Potassium	ppm	ASTM D5185(m)	>20	3	1	3
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	0.2	0.1	0.4
Nitration	Abs/cm	ASTM D7624*	>20	8.7	8.5	9.9
Sulfation	Abs/.1mm	ASTM D7415*	>30	20.0	20.2	22.1
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	NEG

FLUID CONDITION

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

Sodium	ppm	ASTM D5185(m)		8	6	11
Boron	ppm	ASTM D5185(m)		3	4	13
Barium	ppm	ASTM D5185(m)		<1	<1	<1
Molybdenum	ppm	ASTM D5185(m)		60	59	60
Manganese	ppm	ASTM D5185(m)		<1	<1	1
Magnesium	ppm	ASTM D5185(m)		968	964	973
Calcium	ppm	ASTM D5185(m)		1067	1031	1030
Phosphorus	ppm	ASTM D5185(m)		999	1041	1023
Zinc	ppm	ASTM D5185(m)		1176	1174	1171
Sulfur	ppm	ASTM D5185(m)		2505	2495	2256
Oxidation	Abs/.1mm	ASTM D7414*	>25	17.0	15.4	18.2
Visc @ 40°C	cSt	ASTM D7279(m)	82.7	72.6	73.6	70.6
Visc @ 100°C	cSt	ASTM D7279(m)	12.1	11.1	11.4	10.7
Viscosity Index (VI)	Scale	ASTM D2270*	142	143	147	139



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0071334 **Received** : 06 Mar 2024
Lab Number : 02620118 **Tested** : 06 Mar 2024
Unique Number : 5737228 **Diagnosed** : 06 Mar 2024 - Wes Davis
Test Package : MOB 1 (Additional Tests: KV40, VI)

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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.