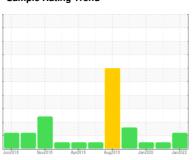


OIL ANALYSIS REPORT

Sample Rating Trend



PH

AGENITOR G4789

Right Natural Gas Engine

SHELL MYSELLA S5 S (--- LTR)

DIAGNOSIS

Recommendation

We recommend that you drain the oil from the component if this has not already been done. Resample at the next service interval to monitor.

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

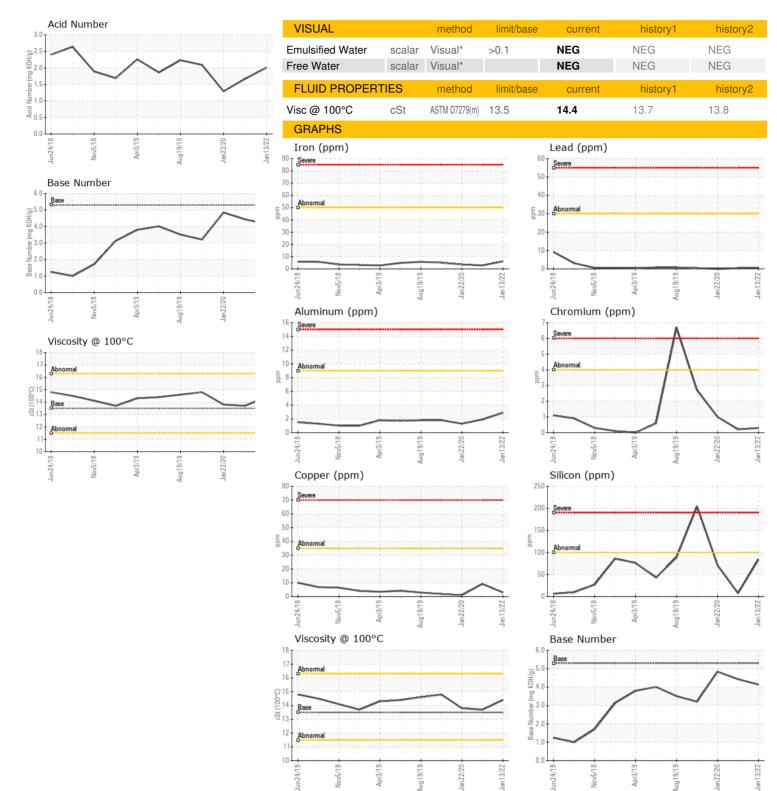
Fluid Condition

The i-pH level is abnormally low. The BN result indicates that there is suitable alkalinity remaining in the oil. The AN level is acceptable for this fluid. The oil is no longer serviceable.

Client Info			Jun2018	Nov2018 Apr2019	Aug2019 Jan2020	Jan 2022	
Client Info	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age	Sample Number		Client Info		WC0546682	WC0546681	WC101545
Oil Age hrs Client Info 1011 986 276 Oil Changed Sample Status Client Info N/A Not Changed Changed Changed Sample Status method limit/base current history1 history2 Iron ppm ASTM DS188(m) >50 6 3 4 Chromium ppm ASTM DS188(m) >4 <1 <1 1 Nickel ppm ASTM DS188(m) >2 <1 <1 0 Silver ppm ASTM DS188(m) >2 <1 <1 0 Silver ppm ASTM DS188(m) >30 0 0 <1 <1 Capper ppm ASTM DS188(m) >30 <1 <1 0 Copper ppm ASTM DS188(m) >30 <1 <1 0 Copper ppm ASTM DS188(m) >4 <1 0 0 Capper ppm ASTM DS188(m) 0 0 0<	Sample Date		Client Info		13 Jan 2022	29 Jun 2021	22 Jan 2020
Client Info	Machine Age	hrs	Client Info		25014	22471	12521
Mathematical Normal Normal Normal Mathematical Normal Normal Mistory Mistory	Oil Age	hrs	Client Info		1011	986	276
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM DS185(m) >50 6 3 4 Chromium ppm ASTM DS185(m) >4 <1	Oil Changed		Client Info		N/A	Not Changd	Changed
Irron	Sample Status				ABNORMAL	NORMAL	NORMAL
Chromium ppm ASTM D5185(m) >4 <1	WEAR METALS		method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185(m)	>50	6	3	4
Titanium	Chromium	ppm	ASTM D5185(m)	>4	<1	<1	1
Silver	Nickel	ppm	ASTM D5185(m)	>2	<1	<1	0
Aluminum		ppm	ASTM D5185(m)		0	0	<1
Lead	Silver	ppm	ASTM D5185(m)	>3		0	0
Copper ppm ASTM D5185(m) >35 3 9 1 Tin ppm ASTM D5185(m) >4 <1	Aluminum	ppm	ASTM D5185(m)	>9		2	1
Tin ppm ASTM D5185(m) >4 <1 0 0 0 Antimony ppm ASTM D5185(m) 0 0 0 Beryllium ppm ASTM D5185(m) 0 0 0 0 Cadmium ppm ASTM D5185(m) 0 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185(m) 1 2 3 4 Barium ppm ASTM D5185(m) 1 2 5 Molybdenum ppm ASTM D5185(m) 1 2 5 Manganese ppm ASTM D5185(m) 7 8 5 Calcium ppm ASTM D5185(m) 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Lead	ppm	. ,				
Antimony ppm ASTM D518S(m) <1 0 <1 Vanadium ppm ASTM D518S(m) 0 0 0 Beryllium ppm ASTM D518S(m) 0 0 0 Cadmium ppm ASTM D518S(m) 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D518S(m) 2 3 4 Barium ppm ASTM D518S(m) 0 0 <1	Copper	ppm	. ,	>35	3	9	
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) 2 3 4 Barium ppm ASTM D5185(m) 0 0 <1 Molybdenum ppm ASTM D5185(m) 1 2 5 Manganese ppm ASTM D5185(m) 7 8 5 Calcium ppm ASTM D5185(m) 1864 1740 1727 Phosphorus ppm ASTM D5185(m) 300 319 288 279 Zinc ppm ASTM D5185(m) 389 368 344 Sulfur ppm ASTM D5185(m) <1 <1 <1 <1 CONTAMINANTS method limit/base current	Tin	ppm	ASTM D5185(m)	>4	<1	0	0
Beryllium	Antimony	ppm	ASTM D5185(m)		<1	0	<1
Cadmium ppm ASTM D5185(m) 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185(m) 2 3 4 Barium ppm ASTM D5185(m) 0 0 <1 Molybdenum ppm ASTM D5185(m) 1 2 5 Manganese ppm ASTM D5185(m) 7 8 5 Calcium ppm ASTM D5185(m) 7 8 5 Calcium ppm ASTM D5185(m) 1864 1740 1727 Phosphorus ppm ASTM D5185(m) 389 368 344 Sulfur ppm ASTM D5185(m) 2368 2681 2501 Lithium ppm ASTM D5185(m) <1 <1 <1 <1 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >+100	Vanadium	ppm	ASTM D5185(m)		0	0	0
ADDITIVES	Beryllium	ppm	ASTM D5185(m)		0	0	0
Boron	Cadmium	ppm	ASTM D5185(m)		0	0	0
Barium	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185(m) 1 2 5 Manganese ppm ASTM D5185(m) <1 <1 <1 <1 Magnesium ppm ASTM D5185(m) 7 8 5 Calcium ppm ASTM D5185(m) 1864 1740 1727 Phosphorus ppm ASTM D5185(m) 368 279 Zinc ppm ASTM D5185(m) 389 368 344 Sulfur ppm ASTM D5185(m) 2368 2681 2501 Lithium ppm ASTM D5185(m) <1 <1 <1 <1 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >+100 84 8 71 Sodium ppm ASTM D5185(m) >20 <1 0 <1 INFRA-RED method limit/base current history1 history2 Soot % %	Boron	ppm	ASTM D5185(m)		2	3	4
Manganese ppm ASTM D5185(m) <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 </td <td>Barium</td> <td>ppm</td> <td>ASTM D5185(m)</td> <td></td> <th>0</th> <td>0</td> <td><1</td>	Barium	ppm	ASTM D5185(m)		0	0	<1
Magnesium ppm ASTM D5185(m) 7 8 5 Calcium ppm ASTM D5185(m) 1864 1740 1727 Phosphorus ppm ASTM D5185(m) 300 319 288 279 Zinc ppm ASTM D5185(m) 389 368 344 Sulfur ppm ASTM D5185(m) 2368 2681 2501 Lithium ppm ASTM D5185(m) <1	Molybdenum	ppm	ASTM D5185(m)		1	2	5
Calcium ppm ASTM D5185(m) 1864 1740 1727 Phosphorus ppm ASTM D5185(m) 300 319 288 279 Zinc ppm ASTM D5185(m) 389 368 344 Sulfur ppm ASTM D5185(m) 2368 2681 2501 Lithium ppm ASTM D5185(m) <1	Manganese	ppm	ASTM D5185(m)		<1	<1	<1
Phosphorus ppm ASTM D5185(m) 300 319 288 279 Zinc ppm ASTM D5185(m) 389 368 344 Sulfur ppm ASTM D5185(m) 2368 2681 2501 Lithium ppm ASTM D5185(m) <1 <1 <1 <1 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >+100 84 8 71 Sodium ppm ASTM D5185(m) >+100 84 8 71 Sodium ppm ASTM D5185(m) >20 <1 0 <1 INFRA-RED method limit/base current history1 history2 Soot % % ASTM D7844* 0 0 0 Nitration Abs/cm ASTM D7415* >30 20.5 18.5 21.1 FLUID DEGRADATION method limit/base current history1	Magnesium	ppm	ASTM D5185(m)		7	8	5
Zinc	Calcium	ppm	ASTM D5185(m)		1864	1740	1727
Sulfur ppm ASTM D5185(m) 2368 2681 2501 Lithium ppm ASTM D5185(m) <1 <1 <1 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >+100 84 8 71 Sodium ppm ASTM D5185(m) <1 1 0 Potassium ppm ASTM D5185(m) >20 <1 0 <1 INFRA-RED method limit/base current history1 history2 Soot % % ASTM D7844* 0 0 0 Nitration Abs/cm ASTM D7624* >20 6.8 5.9 5.8 Sulfation Abs/.1mm ASTM D7415* >30 20.5 18.5 21.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm ASTM D7414* >25 14.8 12.2	Phosphorus	ppm	ASTM D5185(m)	300	319	288	279
Lithium ppm ASTM D5185(m) <1 <1 <1 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >+100 84 8 71 Sodium ppm ASTM D5185(m) >+100 84 8 71 Potassium ppm ASTM D5185(m) >+100 84 8 71 INFRA-RED ppm ASTM D5185(m) >+100 84 8 71 INFRA-RED method limit/base current history1 history2 Soot % % ASTM D7844* 0 0 0 Nitration Abs/cm ASTM D7624* >20 6.8 5.9 5.8 Sulfation Abs/.1mm ASTM D7415* >30 20.5 18.5 21.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm ASTM D7414* >25	Zinc	ppm	ASTM D5185(m)		389	368	344
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >+100 84 8 71 Sodium ppm ASTM D5185(m) <1	Sulfur	ppm	ASTM D5185(m)		2368	2681	2501
Silicon ppm ASTM D5185(m) >+100 84 8 71 Sodium ppm ASTM D5185(m) >+100 84 8 71 Potassium ppm ASTM D5185(m) >20 <1 1 0 INFRA-RED method limit/base current history1 history2 Soot % % ASTM D7844* 0 0 0 Nitration Abs/cm ASTM D7624* >20 6.8 5.9 5.8 Sulfation Abs/.1mm ASTM D7415* >30 20.5 18.5 21.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm ASTM D7414* >25 14.8 12.2 11.2 Acid Number (AN) mg KOH/g ASTM D7974* 2.01 1.67 1.29 Base Number (BN) mg KOH/g ASTM D2896* 5.3 4.14 4.43 4.84	Lithium	ppm	ASTM D5185(m)		<1	<1	<1
Sodium ppm ASTM D5185(m) <1 1 0 Potassium ppm ASTM D5185(m) >20 <1 0 <1 INFRA-RED method limit/base current history1 history2 Soot % % ASTM D7844* 0 0 0 Nitration Abs/cm ASTM D7624* >20 6.8 5.9 5.8 Sulfation Abs/.1mm ASTM D7415* >30 20.5 18.5 21.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm ASTM D7414* >25 14.8 12.2 11.2 Acid Number (AN) mg KOH/g ASTM D974* 2.01 1.67 1.29 Base Number (BN) mg KOH/g ASTM D2896* 5.3 4.14 4.43 4.84	CONTAMINANTS		method	limit/base	current	history1	history2
Potassium ppm ASTM D5185(m) >20 <1 0 <1 INFRA-RED method limit/base current history1 history2 Soot % % ASTM D7844* 0 0 0 Nitration Abs/cm ASTM D7624* >20 6.8 5.9 5.8 Sulfation Abs/.1mm ASTM D7415* >30 20.5 18.5 21.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm ASTM D7414* >25 14.8 12.2 11.2 Acid Number (AN) mg KOH/g ASTM D974* 2.01 1.67 1.29 Base Number (BN) mg KOH/g ASTM D2896* 5.3 4.14 4.43 4.84	Silicon	ppm	ASTM D5185(m)	>+100	84	8	71
INFRA-RED	Sodium	ppm	ASTM D5185(m)		<1	1	0
Soot % % ASTM D7844* 0 0 0 Nitration Abs/cm ASTM D7624* >20 6.8 5.9 5.8 Sulfation Abs/.1mm ASTM D7415* >30 20.5 18.5 21.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm ASTM D7414* >25 14.8 12.2 11.2 Acid Number (AN) mg KOH/g ASTM D7414* 2.01 1.67 1.29 Base Number (BN) mg KOH/g ASTM D2896* 5.3 4.14 4.43 4.84	Potassium	ppm	ASTM D5185(m)	>20	<1	0	<1
Nitration Abs/cm ASTM D7624* >20 6.8 5.9 5.8 Sulfation Abs/.1mm ASTM D7615* >30 20.5 18.5 21.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm ASTM D7414* >25 14.8 12.2 11.2 Acid Number (AN) mg KOH/g ASTM D974* 2.01 1.67 1.29 Base Number (BN) mg KOH/g ASTM D2896* 5.3 4.14 4.43 4.84	INFRA-RED		method	limit/base	current	history1	history2
Sulfation Abs/.1mm ASTM D7415* >30 20.5 18.5 21.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm ASTM D7414* >25 14.8 12.2 11.2 Acid Number (AN) mg KOH/g ASTM D974* 2.01 1.67 1.29 Base Number (BN) mg KOH/g ASTM D2896* 5.3 4.14 4.43 4.84	Soot %	%	ASTM D7844*		0	0	0
FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm ASTM D7414* >25 14.8 12.2 11.2 Acid Number (AN) mg KOH/g ASTM D974* 2.01 1.67 1.29 Base Number (BN) mg KOH/g ASTM D2896* 5.3 4.14 4.43 4.84	Nitration	Abs/cm	ASTM D7624*	>20	6.8	5.9	5.8
Oxidation Abs/.1mm ASTM D7414* >25 14.8 12.2 11.2 Acid Number (AN) mg KOH/g ASTM D974* 2.01 1.67 1.29 Base Number (BN) mg KOH/g ASTM D2896* 5.3 4.14 4.43 4.84	Sulfation	Abs/.1mm	ASTM D7415*	>30	20.5	18.5	21.1
Acid Number (AN) mg KOH/g ASTM D974* 2.01 1.67 1.29 Base Number (BN) mg KOH/g ASTM D2896* 5.3 4.14 4.43 4.84	FLUID DEGRADA	TION	method	limit/base	current	history1	history2
Base Number (BN) mg KOH/g ASTM D2896* 5.3 4.14 4.43 4.84	Oxidation	Abs/.1mm	ASTM D7414*	>25	14.8	12.2	11.2
	Acid Number (AN)	mg KOH/g	ASTM D974*		2.01	1.67	1.29
i-pH Scale 0·14 ASTM D7946* <4.5 △ 3.72 5.13 5.2	Base Number (BN)	mg KOH/g	ASTM D2896*	5.3	4.14	4.43	4.84
	i-pH	Scale 0-14	ASTM D7946*	<4.5	△ 3.72	5.13	5.2



OIL ANALYSIS REPORT





CALA ISO 17025:2017 Accredited Laboratory

Laboratory Sample No. Lab Number Unique Number

: WC0546682

: 02466514 : 5343432

: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 Received : 18 Jan 2022 Diagnosed : 18 Jan 2022

Diagnostician : Kevin Marson

Test Package: MOB 2 (Additional Tests: i-pH, TAN Auto, TAN Man) 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.

CHATHAM-KENT PUC

100 IRWIN ST CHATHAM, ON CA N7M 5K8 Contact: Ken McCracken kenmc@chatham-kent.ca T: (519)352-1971 F: