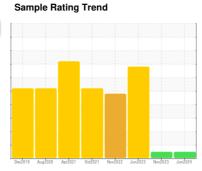


COOLANT REPORT

Firewater V411201A FWP PACKAGE A

Component Coolant

EXTENDED LIFE COOLANT (--- GAL)





DIAGNOSIS

Recommendation

The fluid is suitable for further service. Resample at the next service interval to monitor.

Corrosion

All metal levels are normal indicating no corrosion in the cooling system.

Contaminants

There is no indication of any contamination in the coolant.

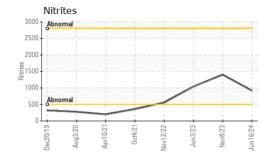
Coolant Condition

The nitrite level is acceptable. The pH level of this fluid is within the acceptable limits. The reserve alkalinity of this fluid is acceptable.

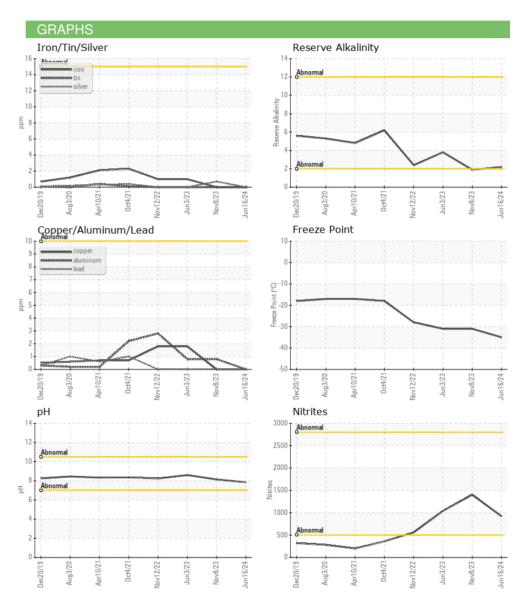
Sample Date							
Sample Date	SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 0 0 0 Oil Age hrs Client Info 0 0 0 Oil Changed Client Info N/A N/A N/A N/A Sample Status Client Info N/A N/A N/A N/A PHYSICAL TEST RESULTS method limit/base current history1 history2 Glycol Type FT-IR UNK Specific Gravity ASTM D1298* 1.065 1.065 1.065 DrH Scale 0-14 ASTM D1298* 1.065 1.065 1.065 DrH Scale 0-20 ASTM D1287* 9.0 7.84 8.14 8.60 Nitrites ppm Alcan Test Kit* 920 1.400 1040 Reserve Alkalinity Scale 0-20 ASTM D1121* 2.2 1.9 3.8 Percentage Glycol % ASTM D3321* -40 -35 -31 \tale{1.1} Carboxylate </th <th>Sample Number</th> <th></th> <th>Client Info</th> <th></th> <th>PC14000179</th> <th>PP13931892</th> <th>PP13872680</th>	Sample Number		Client Info		PC14000179	PP13931892	PP13872680
Dil Age	Sample Date		Client Info		16 Jun 2024	08 Nov 2023	03 Jun 2023
Colin Changed Client Info N/A N/A	Machine Age	hrs	Client Info		0	0	0
NORMAL NORMAL SEVERE	Oil Age	hrs	Client Info		0	0	0
PHYSICAL TEST RESULTS method limit/base current history1 history2	Oil Changed		Client Info		N/A	N/A	N/A
Scale 0-14 ASTM D5185(m)	Sample Status				NORMAL	NORMAL	SEVERE
Specific Gravity	PHYSICAL TEST F	RESULTS	method	limit/base	current	history1	history2
OH Scale 0-14 ASTM D1287* 9.0 7.84 8.14 8.60 Nitrites ppm Alcan Test Kit* 920 1400 1040 Reserve Alkalinity Scale 0-20 ASTM D1121* 2.2 1.9 3.8 Percentage Glycol % ASTM D3321* 50 48.0 48.2 48.1 Freezing Point °C ASTM D3321* -40 -35 -31 -31 Carboxylate CORROSION INHIBITORS method limit/base current method limit/base current history1 history2 Silicon ppm ASTM D5185(m) 32 26 22 Phosphorus ppm ASTM D5185(m) 8 14 9 Boron ppm ASTM D5185(m) 52 51 76 Molybdenum ppm ASTM D5185(m) 158 156 179 CORROSION method limit/base current history1 history2 lron ppm ASTM D5185(m) >15 0 0 1 Aluminum ppm ASTM	Glycol Type		FT-IR		UNK		
Nitrites	Specific Gravity		ASTM D1298*		1.065	1.065	1.065
Reserve Alkalinity Scale 0-20 ASTM D1121¹¹ 2.2 1.9 3.8 Percentage Glycol % ASTM D3321¹ 50 48.0 48.2 48.1 Freezing Point °C ASTM D3321¹ -40 -35 -31 -31 Carboxylate CORROSION INHIBITORS method limit/base current limit/base current history1 history2 Silicon ppm ASTM D5185(m) 32 26 22 Phosphorus ppm ASTM D5185(m) 52 51 76 Molybdenum ppm ASTM D5185(m) 52 51 76 Molybdenum ppm ASTM D5185(m) >15 0 0 1 CORROSION method limit/base current history1 history2 Iron ppm ASTM D5185(m) >10 0 1 Aluminum ppm ASTM D5185(m) >10 0 0 2 Lead ppm ASTM D5185(m) >10 0 0 0	рН	Scale 0-14	ASTM D1287*	9.0	7.84	8.14	8.60
Percentage Glycol % ASTM D3321* 50 48.0 48.2 48.1 Freezing Point °C ASTM D3321* -40 -35 -31 -31 Carboxylate CORROSION INHIBITORS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) 32 26 22 Phosphorus ppm ASTM D5185(m) 8 14 9 Boron ppm ASTM D5185(m) 52 51 76 Molybdenum ppm ASTM D5185(m) 158 156 179 CORROSION method limit/base current history1 history2 Iron ppm ASTM D5185(m) >15 0 0 1 Aluminum ppm ASTM D5185(m) >10 0 0 2 Lead ppm ASTM D5185(m) >10 0 0 0 <th>Nitrites</th> <th>ppm</th> <th>Alcan Test Kit*</th> <th></th> <th>920</th> <th>1400</th> <th>1040</th>	Nitrites	ppm	Alcan Test Kit*		920	1400	1040
Freezing Point °C ASTM D3321* -40 -35 -31 ▲ -31 Carboxylate CORROSION INHIBITORS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) 32 26 22 Phosphorus ppm ASTM D5185(m) 52 51 76 Boron ppm ASTM D5185(m) 52 51 76 Molybdenum ppm ASTM D5185(m) 158 156 179 CORROSION method limit/base current history1 history2 Iron ppm ASTM D5185(m) >15 0 0 1 Aluminum ppm ASTM D5185(m) >10 0 <1 <1 Copper ppm ASTM D5185(m) >10 0 0 0 Lead ppm ASTM D5185(m) >10 0 0 0 <td< th=""><th>Reserve Alkalinity</th><th>Scale 0-20</th><th>ASTM D1121*</th><th></th><th>2.2</th><th>1.9</th><th>3.8</th></td<>	Reserve Alkalinity	Scale 0-20	ASTM D1121*		2.2	1.9	3.8
CORROSION INHIBITORS method limit/base current history1 history2	Percentage Glycol	%	ASTM D3321*	50	48.0	48.2	48.1
CORROSION INHIBITORS method limit/base current history1 history2	Freezing Point	°C	ASTM D3321*	-40	-35	-31	▲ -31
Silicon ppm ASTM D5185(m) 32 26 22	Carboxylate						
Phosphorus	CORROSION INH	IBITORS	method	limit/base	current	history1	history2
Boron	Silicon	ppm	ASTM D5185(m)		32	26	22
Molybdenum ppm ASTM D5185(m) 158 156 179 CORROSION method limit/base current history1 history2 Iron ppm ASTM D5185(m) >15 0 0 1 Aluminum ppm ASTM D5185(m) >10 0 <1 <1 Copper ppm ASTM D5185(m) >10 0 0 2 Lead ppm ASTM D5185(m) >10 0 0 0 Tin ppm ASTM D5185(m) >10 0 0 0 Silver ppm ASTM D5185(m) >10 0 <1 0 Zinc ppm ASTM D5185(m) 2 0 3 CARRIER SALTS method limit/base current history1 history2 Sodium ppm ASTM D5185(m) 3974 5573 3033 Potassium ppm ASTM D5185(m) 4278 6717 2692	Phosphorus	ppm	ASTM D5185(m)		8	14	9
CORROSION method limit/base current history1 history2 Iron ppm ASTM D5185(m) >15 0 0 1 Aluminum ppm ASTM D5185(m) >10 0 <1 <1 Copper ppm ASTM D5185(m) >10 0 0 2 Lead ppm ASTM D5185(m) >10 0 0 0 Tin ppm ASTM D5185(m) >10 0 0 0 Silver ppm ASTM D5185(m) >10 0 <1 0 Zinc ppm ASTM D5185(m) >10 0 <1 0 CARRIER SALTS method limit/base current history1 history2 Sodium ppm ASTM D5185(m) 3974 5573 3033 Potassium ppm ASTM D5185(m) 4278 6717 2692	Boron	ppm	ASTM D5185(m)		52	51	76
Astron ppm ppm Astron ppm ppm Astron ppm ppm Astron ppm p	Molybdenum	ppm	ASTM D5185(m)		158	156	179
ASTM D5185(m) >10 0 <1 <1 <1 <1 <1 <1 <	CORROSION		method	limit/base	current	history1	history2
Copper ppm ASTM D5185(m) >10 0 0 2 Lead ppm ASTM D5185(m) >10 0 0 0 Tin ppm ASTM D5185(m) >10 0 0 0 Silver ppm ASTM D5185(m) >10 0 <1	Iron	ppm	ASTM D5185(m)	>15	0	0	1
Lead ppm ASTM D5185(m) > 10 0 0 0 Tin ppm ASTM D5185(m) > 10 0 0 0 Silver ppm ASTM D5185(m) > 10 0 <1 0 Zinc ppm ASTM D5185(m) 2 0 3 CARRIER SALTS method limit/base current history1 history2 Sodium ppm ASTM D5185(m) 3974 5573 3033 Potassium ppm ASTM D5185(m) 4278 6717 2692 SCALE POTENTIAL method limit/base current history1 history2	Aluminum	ppm	ASTM D5185(m)	>10	0	<1	<1
Tin ppm ASTM D5185(m) >10 0 0 0 Silver ppm ASTM D5185(m) >10 0 <1	Copper	ppm	ASTM D5185(m)	>10	0	0	2
Silver ppm ASTM D5185(m) >10 0 <1 0 0 Zinc ppm ASTM D5185(m) 2 0 3 CARRIER SALTS method limit/base current history1 history2 Sodium ppm ASTM D5185(m) 3974 5573 3033 Potassium ppm ASTM D5185(m) 4278 6717 2692 SCALE POTENTIAL method limit/base current history1 history2	Lead	ppm	ASTM D5185(m)	>10	0	0	0
Zinc ppm ASTM D5185(m) 2 0 3 CARRIER SALTS method limit/base current history1 history2 Sodium ppm ASTM D5185(m) 3974 5573 3033 Potassium ppm ASTM D5185(m) 4278 6717 2692 SCALE POTENTIAL method limit/base current history1 history2	Tin	ppm	ASTM D5185(m)	>10	0	0	0
CARRIER SALTS method limit/base current history1 history2 Sodium ppm ASTM D5185(m) 3974 5573 3033 Potassium ppm ASTM D5185(m) 4278 6717 2692 SCALE POTENTIAL method limit/base current history1 history2	Silver	ppm	ASTM D5185(m)	>10	0	<1	0
Sodium ppm ASTM D5185(m) 3974 5573 3033 Potassium ppm ASTM D5185(m) 4278 6717 2692 SCALE POTENTIAL method limit/base current history1 history2	Zinc	ppm	ASTM D5185(m)		2	0	3
Potassium ppm ASTM D5185(m) 4278 6717 2692 SCALE POTENTIAL method limit/base current history1 history2	CARRIER SAL	TS	method	limit/base	current	history1	history2
SCALE POTENTIAL method limit/base current history1 history2	Sodium	ppm	ASTM D5185(m)		3974	5573	3033
	Potassium	ppm	ASTM D5185(m)		4278	6717	2692
Calcium ppm ASTM D5185(m) >100 9 8 28	SCALE POTEN	ITIAL	method	limit/base	current	history1	history2
FF	Calcium	ppm	ASTM D5185(m)	>100	9	8	28
	Magnesium		ASTM D5185(m)	>40	4	4	5
Hardness mgLCa003 In-house* <75 38 37 ▲ 91	Hardness	mg/L CaCO3	In-house*	<75	38	37	▲ 91



COOLANT REPORT



VISUAL	method	limit/base	current	history1	history2
Coolant Color	Visual*	Orange/R	Red	Red	Orange
Coolant Appearance	Visual*	Clear	Clear	Clear	Clear
Color					
Bottom					No.





CALA ISO 17025:2017 Accredited Laboratory

Laboratory Sample No.

Lab Number : 02647966 Unique Number : 5813518 Test Package : COOL (Additional Tests: GlycolType)

: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 : PC14000179

Received **Tested**

Diagnosed

: 15 Jul 2024 : 16 Jul 2024

: 16 Jul 2024 - Kevin Marson

St. John's, NL CA A1C 6K3 Contact: Liam Maher liam.m.maher@exxonmobil.com T: (709)273-3729

Hebron-Materials and Repair Coordin, Suite 1000, 100 New Gow

ExxonMobil Canada East Ltd.

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.

Contact/Location: Liam Maher - EXXSTJ