

COOLANT REPORT

Sample Rating Trend

WEAR

Area Catlettsburg [Catlettsburg] Coolant - Port Main Engine

Component Coolant

Fluid HYBRID (HOAT) COOLANT (--- GAL)

DIAGNOSIS

Recommendation

Recommend drain coolant if not already done and flush with cleaner before refilling with coolant.

Corrosion

The iron level is severe.

Contaminants

There is no indication of any contamination in the coolant.

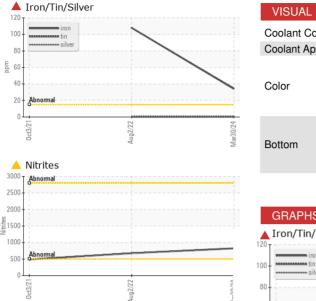
Coolant Condition

The glycol level is lower than acceptable. The pH level of this fluid is within the acceptable limits.

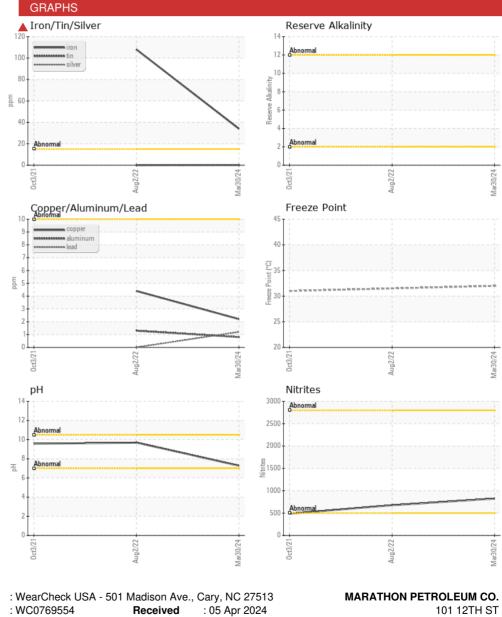
SAMPLE INFORM	1ATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0769554	WC0683573	RP0020064
Sample Date		Client Info		30 Mar 2024	02 Aug 2022	03 Oct 2021
Machine Age	hrs	Client Info		22339	0	0
Oil Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Sample Status				SEVERE	SEVERE	SEVERE
PHYSICAL TEST R	ESULTS	method	limit/base	current	history1	history2
Glycol Type		FT-IR				
Specific Gravity		*ASTM D1298		1.000	1.000	
рН	Scale 0-14	ASTM D1287		7.28	9.69	9.57
Nitrites	ppm	AP-053:2009		824	676	488
Reserve Alkalinity	Scale 0-20	*ASTM D1121				
Percentage Glycol	%	ASTM D3321		<u> </u>	1.3	1 .0
Freezing Point	°F	ASTM D3321		32		+31
Total Dissolved Solids				95.5	246.5	155.5
Carboxylate				fail	fail	fail
CORROSION INHI	BITORS	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D6130		95	426	
Phosphorus	ppm	ASTM D6130		4	0	
Boron	ppm	ASTM D6130		169	998	
Molybdenum	ppm	ASTM D6130		23	<1	
CORROSION		method	limit/base	current	history1	history2
Iron	ppm	ASTM D6130	>15	4 34	1 08	
Aluminum	ppm	ASTM D6130	>10	<1	1	
Copper	ppm	ASTM D6130	>10	2	4	
Lead	ppm	ASTM D6130	>10	1	0	
Tin	ppm	ASTM D6130	>10	<1	0	
Zinc	ppm	ASTM D6130		<1	3	
CONTAMINANTS		method	limit/base	current	history1	history2
Chlorine	ppm	ASTM D6130		61	131	
CARRIER SALTS		method	limit/base	current	history1	history2
Sodium	ppm	ASTM D6130		1059	2349	
Potassium	ppm	ASTM D6130		35	20	
SCALE POTENTI	AL	method	limit/base	current	history1	history2
Calcium	ppm	ASTM D6130		14	34	
Magnesium	ppm	ASTM D6130		7	19	

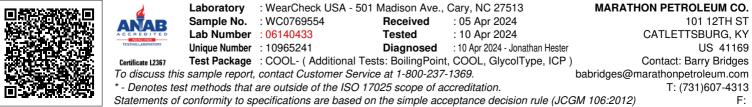


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Submitted By: M/V CATLETTSBURG