



COOLANT REPORT

Sample Rating Trend

OFF SPEC

Area

West Virginia

Machine Id

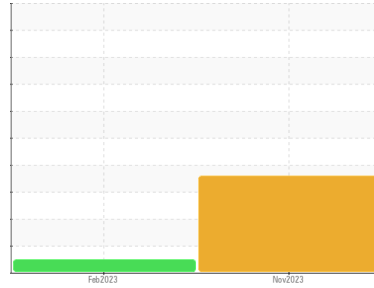
[West Virginia] Coolant - Starboard Main Engine (Jacket)

Component

Coolant

Fluid

CATERPILLAR ELC (35 GAL)



DIAGNOSIS

Recommendation

We recommend drain/flush system, and refill with 50/50 antifreeze water mixture. We advise that you replenish the supplemental coolant additives (SCAs) and add per manufacturer's recommendations.

Corrosion

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

Contaminants

There is a light concentration of oil present in the coolant.

Coolant Condition

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

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0805462	WC0735748	---
Sample Date	Client Info		27 Nov 2023	19 Feb 2023	---
Machine Age	hrs	Client Info	39717	0	---
Oil Age	hrs	Client Info	0	0	---
Oil Changed	Client Info		N/A	N/A	---
Sample Status			ABNORMAL	NORMAL	---

PHYSICAL TEST RESULTS

	method	limit/base	current	history1	history2
Specific Gravity	*ASTM D1298		1.023	1.032	---
pH	Scale 0-14 ASTM D1287		8.73	8.40	---
Nitrites	ppm AP-053:2009		560	412	---
Reserve Alkalinity	Scale 0-20 *ASTM D1121		---	---	---
Percentage Glycol	% ASTM D3321		▲ 18.3	24.2	---
Freezing Point	°F ASTM D3321		18	11	---
Total Dissolved Solids			122.0	175.5	---
Carboxylate			fail	fail	---

CORROSION INHIBITORS

	method	limit/base	current	history1	history2
Silicon	ppm ASTM D6130	0	76	10	---
Phosphorus	ppm ASTM D6130	0	0	0	---
Boron	ppm ASTM D6130	0	0	7	---
Molybdenum	ppm ASTM D6130	950	98	418	---

CORROSION

	method	limit/base	current	history1	history2
Iron	ppm ASTM D6130	>15	2	<1	---
Aluminum	ppm ASTM D6130	>10	0	<1	---
Copper	ppm ASTM D6130	>10	<1	<1	---
Lead	ppm ASTM D6130	>10	<1	<1	---
Tin	ppm ASTM D6130	>10	<1	0	---
Zinc	ppm ASTM D6130		0	0	---

CONTAMINANTS

	method	limit/base	current	history1	history2
Chlorine	ppm ASTM D6130		36	111	---

CARRIER SALTS

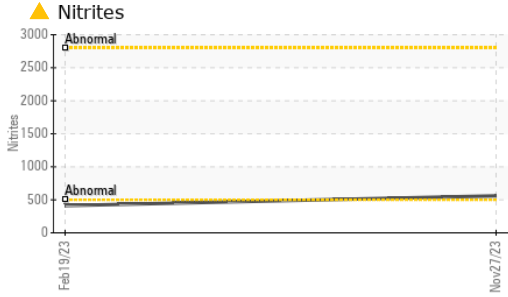
	method	limit/base	current	history1	history2
Sodium	ppm ASTM D6130		1404	2935	---
Potassium	ppm ASTM D6130		105	1864	---


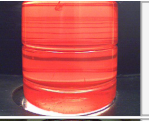


SCALE POTENTIAL

	method	limit/base	current	history1	history2
Calcium	ppm ASTM D6130		17	61	---
Magnesium	ppm ASTM D6130		6	17	---

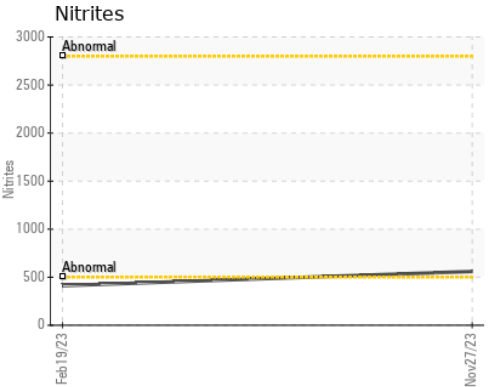
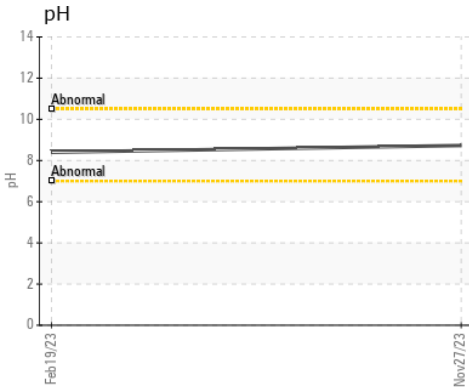
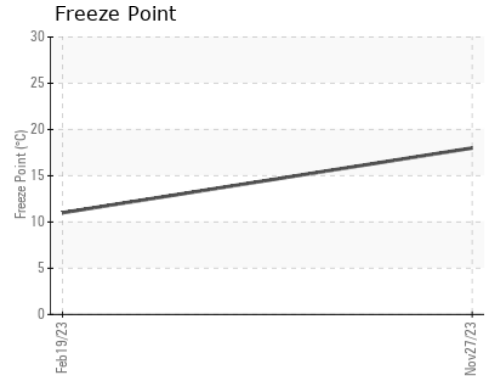
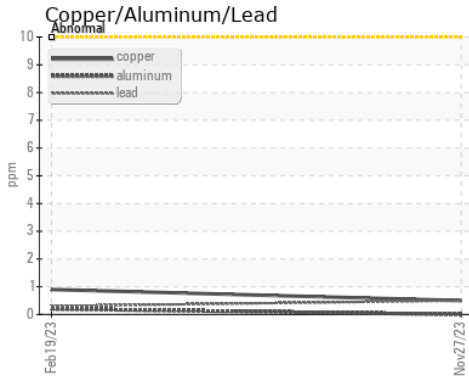
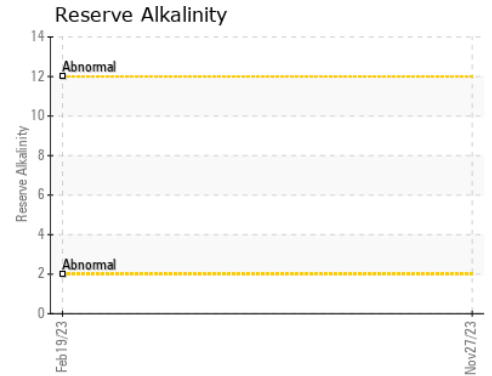
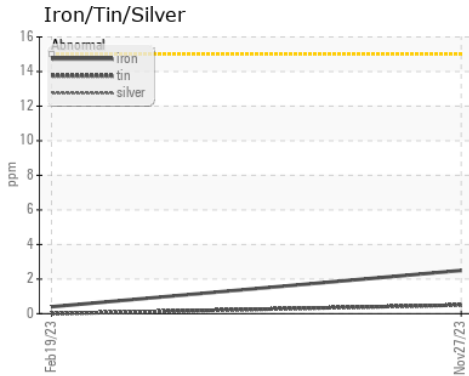


COOLANT REPORT



VISUAL	method	limit/base	current	history1	history2
Coolant Color	*Visual		Red	Red	---
Coolant Appearance	*Visual	Clear	▲ oil	normal	---
Color					no image
Bottom					no image

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0805462 **Received** : 06 Dec 2023
Lab Number : 06026972 **Diagnosed** : 14 Dec 2023
Unique Number : 10776763 **Diagnostician** : Jonathan Hester
Test Package : COOL- (Additional Tests: COOL, ICP, KF)

MARATHON PETROLEUM CO.
 101 12TH ST
 CATLETTSBURG, KY
 US 41169
 Contact: SHAWN MCCLASKEY
 stmccclaskey@marathonpetroleum.com
 T: (606)739-2416
 F: x:

To discuss this sample report, contact Customer Service at 1-800-237-1369.

* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)