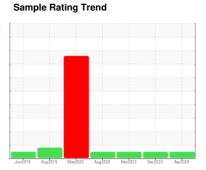


COOLANT REPORT

Area
Ohio Valley [Ohio Valley] Coolant - Starboard Main Engine Coolant

CATERPILLAR ELC (--- GAL)





Recommendation

The fluid is suitable for further service.

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

Carboxylate test failed. The nitrite level is acceptable. The pH level of this fluid is within the acceptable limits.

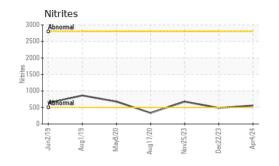
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0845995	WC0845998	WC0845955
Sample Date		Client Info		04 Apr 2024	22 Dec 2023	25 Nov 2023
Machine Age	hrs	Client Info		63623	61569	60981
Oil Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	Not Changd	N/A
Sample Status				NORMAL	NORMAL	NORMAL
PHYSICAL TEST F	RESULTS	method	limit/base	current	history1	history2
Glycol Type		FT-IR				
Specific Gravity		*ASTM D1298		1.033	1.034	1.034
рН	Scale 0-14	ASTM D1287		8.26	8.31	8.32
Nitrites	ppm	AP-053:2009		560	488	676
Reserve Alkalinity	Scale 0-20	*ASTM D1121				
Percentage Glycol	%	ASTM D3321		25.8	25.9	25.9
Freezing Point	°F	ASTM D3321		10	10	10
Total Dissolved Solids				194.0	245.5	199.5
Carboxylate				fail	fail	fail
CORROSION INH	IBITORS	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D6130	0	13	12	13
Phosphorus	ppm	ASTM D6130	0	0	0	3
Boron	ppm	ASTM D6130	0	37	38	37
Molybdenum	ppm	ASTM D6130	950	268	319	287
CORROSION		method	limit/base	current	history1	history2
Iron	ppm	ASTM D6130	>15	0	0	0
Aluminum	ppm	ASTM D6130	>10	0	<1	0
Copper	ppm	ASTM D6130	>10	0	1	<1
Lead	ppm	ASTM D6130	>10	0	<1	<1
Tin	ppm	ASTM D6130	>10	0	2	<1
Zinc	ppm	ASTM D6130		0	1	<1
CONTAMINANTS	;	method	limit/base	current	history1	history2
Chlorine	ppm	ASTM D6130		20	19	14
CARRIER SALTS		method	limit/base	current	history1	history2
Sodium	ppm	ASTM D6130		2360	2676	2276
Potassium	ppm	ASTM D6130		7	8	8
SCALE POTENTI	AL _	method	limit/base	current	history1	history2
Calcium	ppm	ASTM D6130		28	30	28
	F F 11					-

Magnesium

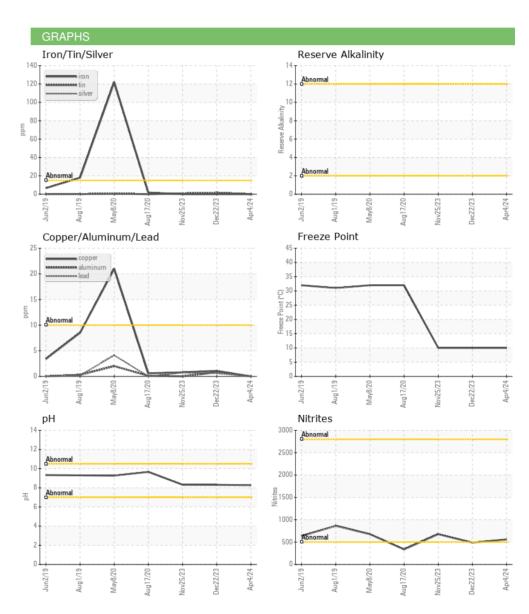
ppm ASTM D6130



COOLANT REPORT



VISUAL	method	limit/base	current	history1	history2
Coolant Color	*Visual		Red	Red	Red
Coolant Appearance	*Visual	Clear	normal	normal	normal
Color					
Bottom					







Laboratory

Sample No. Lab Number : 06158223

: WC0845995

Unique Number : 10993646

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received **Tested**

: 23 Apr 2024 : 29 Apr 2024 Diagnosed

: 29 Apr 2024 - Jonathan Hester Test Package : COOL- (Additional Tests: BoilingPoint, COOL, GlycolType, ICP, KF)

MARATHON PETROLEUM CO. 101 12TH ST CATLETTSBURG, KY US 41169

Certificate 12367

Report Id: MARCAT [WUSCAR] 06158223 (Generated: 04/29/2024 12:32:33) Rev: 1

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.

Contact: CORY GUMBERT cagumbert@marathonpetroleum.com

T: (606)585-3950 F: x:

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

Submitted By: M/V OHIO VALLEY