

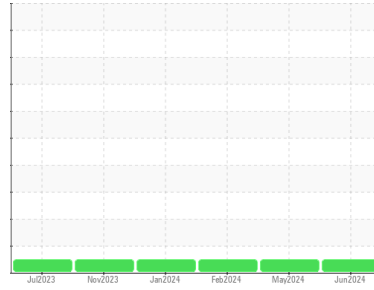


OIL ANALYSIS REPORT



Machine Id
CATERPILLAR R1300 SCP221
 Component
Diesel Engine
 Fluid
DIESEL ENGINE OIL SAE 15W40 (--- GAL)

Sample Rating Trend



NORMAL



DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			WC0949833	WC0937706	WC0892396
Sample Date	Client Info			10 Jun 2024	09 May 2024	20 Feb 2024
Machine Age	hrs	Client Info		3866	3516	2683
Oil Age	hrs	Client Info		0	0	250
Oil Changed	Client Info			Changed	Changed	N/A
Sample Status				NORMAL	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel	WC Method	>5		<1.0	<1.0	<1.0
Water	WC Method	>0.2		NEG	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>100	19	20	15
Chromium	ppm	ASTM D5185(m)	>20	0	0	0
Nickel	ppm	ASTM D5185(m)	>2	0	0	0
Titanium	ppm	ASTM D5185(m)	>2	0	0	0
Silver	ppm	ASTM D5185(m)	>2	0	0	0
Aluminum	ppm	ASTM D5185(m)	>25	1	1	2
Lead	ppm	ASTM D5185(m)	>40	4	<1	2
Copper	ppm	ASTM D5185(m)	>330	4	3	3
Tin	ppm	ASTM D5185(m)	>15	0	0	<1
Antimony	ppm	ASTM D5185(m)		0	0	0
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)	250	32	30	33
Barium	ppm	ASTM D5185(m)	10	0	0	0
Molybdenum	ppm	ASTM D5185(m)	100	36	36	36
Manganese	ppm	ASTM D5185(m)		<1	<1	0
Magnesium	ppm	ASTM D5185(m)	450	461	458	459
Calcium	ppm	ASTM D5185(m)	3000	1822	1883	1791
Phosphorus	ppm	ASTM D5185(m)	1150	742	743	732
Zinc	ppm	ASTM D5185(m)	1350	864	877	860
Sulfur	ppm	ASTM D5185(m)	4250	2753	2904	2577
Lithium	ppm	ASTM D5185(m)		<1	<1	<1

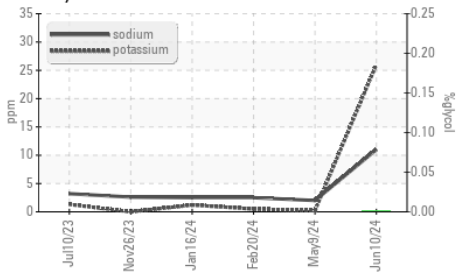
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	5	5	4
Sodium	ppm	ASTM D5185(m)	>158	11	2	2
Potassium	ppm	ASTM D5185(m)	>20	26	<1	<1
Glycol	%	ASTM D7922*		0.0	NEG	NEG

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>3	0.7	0.7	0.5
Nitration	Abs/cm	ASTM D7624*	>20	7.8	7.8	6.8
Sulfation	Abs./1mm	ASTM D7415*	>30	24.0	23.6	22.8

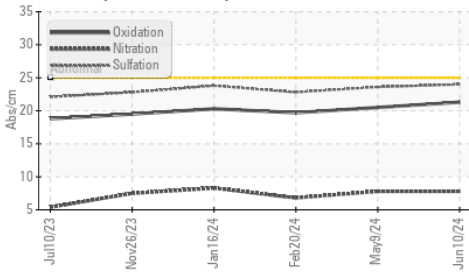


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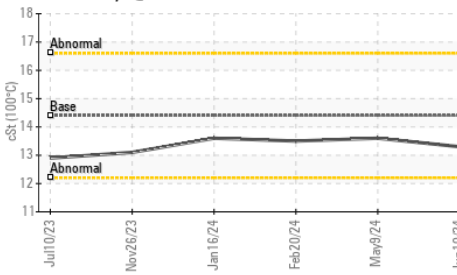
Glycol Contamination



FT-IR (Direct Trend)



Viscosity @ 100°C



FLUID DEGRADATION

method	limit/base	current	history1	history2	
Oxidation	Abs./1mm ASTM D7414*	>25	21.3	20.5	19.7

VISUAL

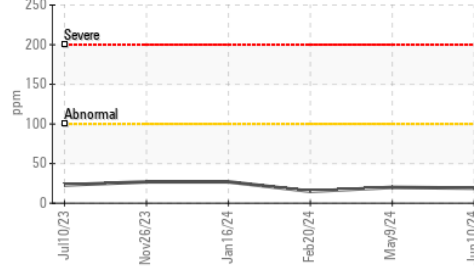
method	limit/base	current	history1	history2	
Emulsified Water	scalar Visual*	>0.2	NEG	NEG	NEG
Free Water	scalar Visual*		NEG	NEG	NEG

FLUID PROPERTIES

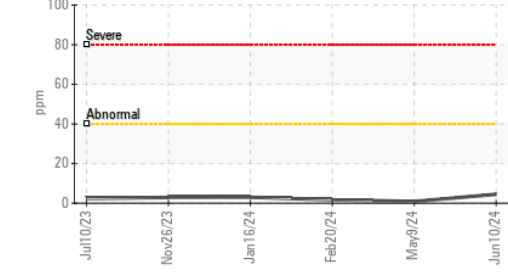
method	limit/base	current	history1	history2	
Visc @ 100°C	cSt ASTM D7279(m)	14.4	13.3	13.6	13.5

GRAPHS

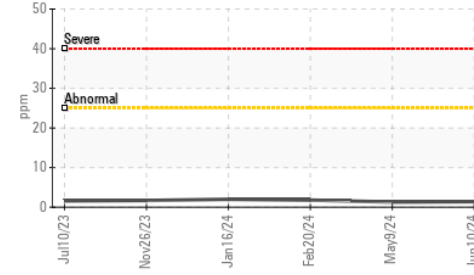
Iron (ppm)



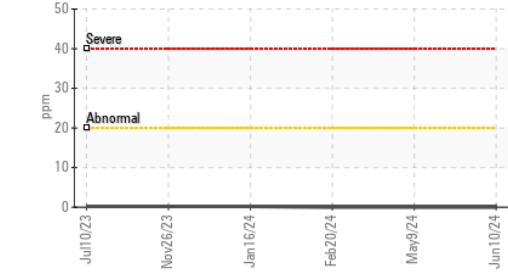
Lead (ppm)



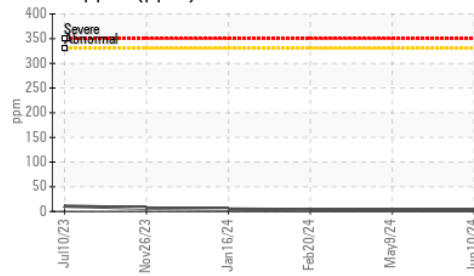
Aluminum (ppm)



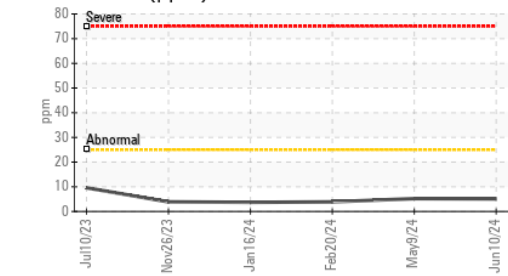
Chromium (ppm)



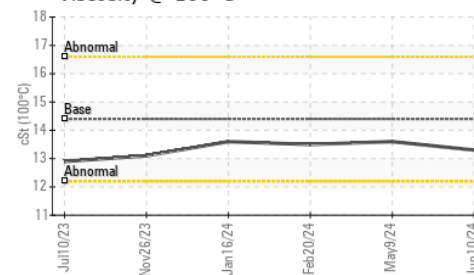
Copper (ppm)



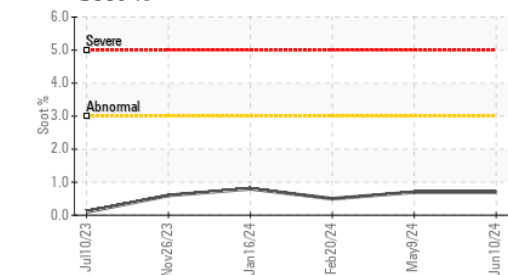
Silicon (ppm)



Viscosity @ 100°C



Soot %



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0949833 **Received** : 13 Jun 2024
Lab Number : **02641613** **Tested** : 13 Jun 2024
Unique Number : 5799152 **Diagnosed** : 13 Jun 2024 - Wes Davis
Test Package : MOB 1 (Additional Tests: Glycol)

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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.