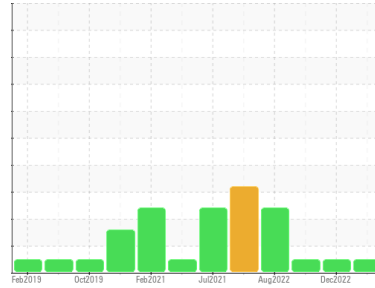




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
CATERPILLAR 318 5091
 Component
Diesel Engine
 Fluid
DIESEL ENGINE OIL SAE 15W40 (4 GAL)

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 BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	WC0650918	WC0744166	WC0744190
Sample Date	Client Info	27 Oct 2023	06 Dec 2022	14 Oct 2022
Machine Age	hrs	11826	0	9788
Oil Age	hrs	200	0	0
Oil Changed	Client Info	Changed	N/A	N/A
Sample Status		NORMAL	NORMAL	NORMAL

CONTAMINATION

method	limit/base	current	history1	history2
Fuel	WC Method >5	<1.0	<1.0	<1.0

WEAR METALS

method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m >100	6	10	13
Chromium	ppm	ASTM D5185m >20	0	<1	<1
Nickel	ppm	ASTM D5185m >2	0	<1	0
Titanium	ppm	ASTM D5185m >2	0	0	0
Silver	ppm	ASTM D5185m >2	0	0	0
Aluminum	ppm	ASTM D5185m >25	<1	4	4
Lead	ppm	ASTM D5185m >40	0	<1	<1
Copper	ppm	ASTM D5185m >330	3	<1	1
Tin	ppm	ASTM D5185m >15	0	<1	<1
Vanadium	ppm	ASTM D5185m	0	0	0
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m 250	14	6	4
Barium	ppm	ASTM D5185m 10	0	0	0
Molybdenum	ppm	ASTM D5185m 100	60	57	62
Manganese	ppm	ASTM D5185m	0	<1	<1
Magnesium	ppm	ASTM D5185m 450	830	851	935
Calcium	ppm	ASTM D5185m 3000	1146	1119	1169
Phosphorus	ppm	ASTM D5185m 1150	981	971	1018
Zinc	ppm	ASTM D5185m 1350	1204	1190	1216
Sulfur	ppm	ASTM D5185m 4250	3066	3344	3659

CONTAMINANTS

method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m >25	9	14	19
Sodium	ppm	ASTM D5185m >158	4	8	8
Potassium	ppm	ASTM D5185m >20	13	9	8
Glycol	%	*ASTM D2982	NEG	NEG	NEG

INFRA-RED

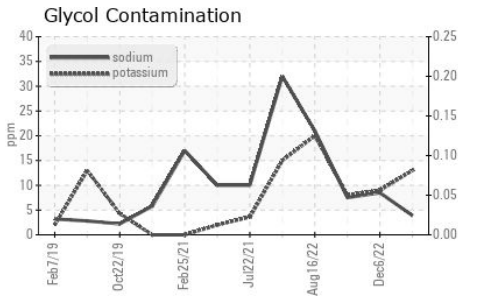
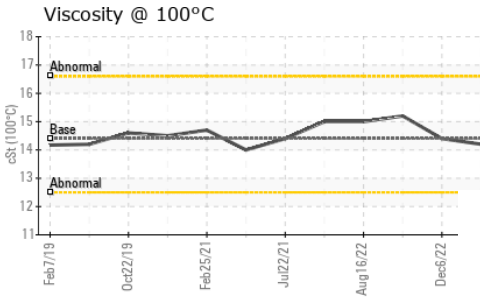
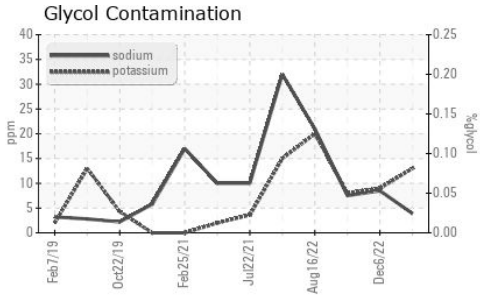
method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844 >3	0.2	0.5	0.6
Nitration	Abs/cm	*ASTM D7624 >20	6.3	8.4	9.4
Sulfation	Abs/.1mm	*ASTM D7415 >30	18.0	20.9	21.2

FLUID DEGRADATION

method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	*ASTM D7414 >25	13.4	15.4	17.0
Base Number (BN)	mg KOH/g	ASTM D2896 8.5	8.9	9.6	9.4



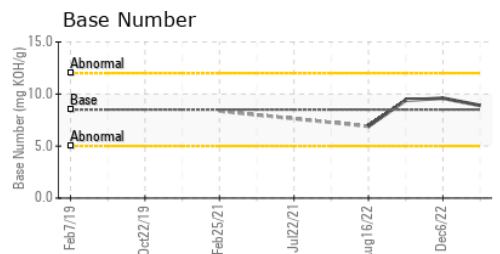
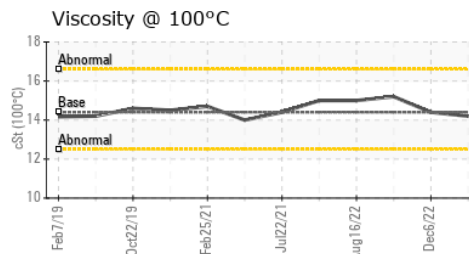
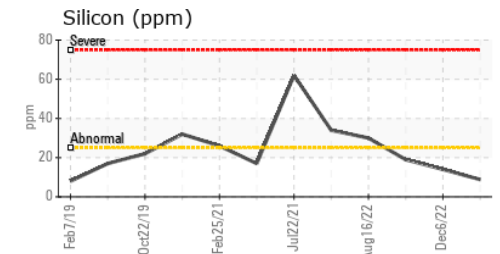
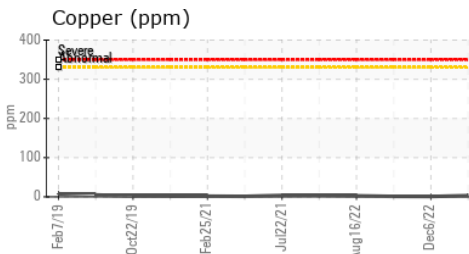
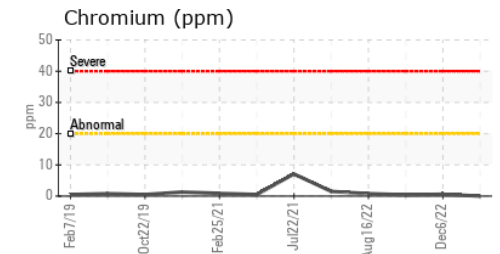
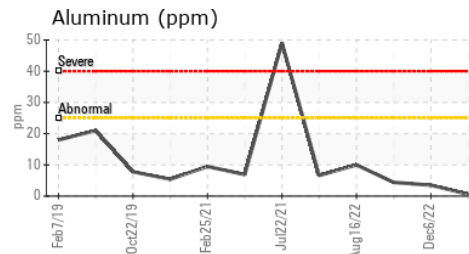
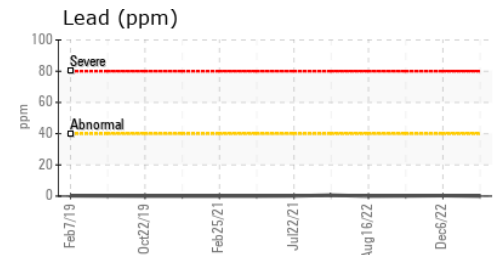
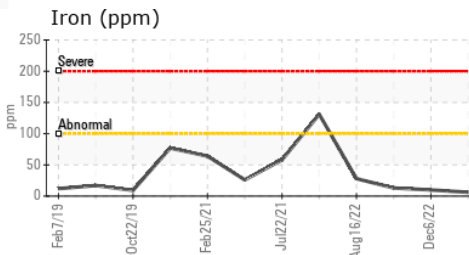
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14.4	14.4	15.2

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0650918 **Received** : 06 Nov 2023
Lab Number : 05998687 **Diagnosed** : 07 Nov 2023
Unique Number : 10727047 **Diagnostician** : Don Baldrige
Test Package : MOB 1 (Additional Tests: Glycol, TBN)

INTERSTATE WASTE-CHESTER
 89 BLACK MEADOW RD
 CHESTER, NY
 US 10918
 Contact: ROB CLARKE
 rclarke@interstatewaste.com
 T:
 F: (845)572-3301

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)