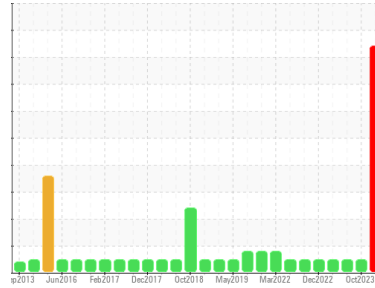


OIL ANALYSIS REPORT



Machine Id
CATERPILLAR EXCAVATOR 245
 Component
Diesel Engine
 Fluid
DIESEL ENGINE OIL SAE 15W40 (--- GAL)

Sample Rating Trend



DIAGNOSIS

- Recommendation**
 We advise that you check the fuel injection system. Oil and filter change at the time of sampling has been noted. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.
- Wear**
 Moderate concentration of visible metal present. Cylinder, crank, or cam shaft wear is indicated.
- Contamination**
 There is a moderate amount of fuel present in the oil.
- Fluid Condition**
 Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		PCA0109576	LP0000974	WC0721062
Sample Date	Client Info		18 Mar 2024	30 Oct 2023	19 Jul 2023
Machine Age	hrs	Client Info	23971	23971	731
Oil Age	hrs	Client Info	500	500	500
Oil Changed	Client Info		Changed	Changed	Changed
Sample Status			SEVERE	NORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Water	WC Method	>0.2	NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >86	▲ 184	67	85
Chromium	ppm	ASTM D5185m >3	2	<1	2
Nickel	ppm	ASTM D5185m >3	<1	0	<1
Titanium	ppm	ASTM D5185m >2	3	0	<1
Silver	ppm	ASTM D5185m >2	0	0	0
Aluminum	ppm	ASTM D5185m >15	4	<1	2
Lead	ppm	ASTM D5185m >16	9	5	14
Copper	ppm	ASTM D5185m >250	8	5	8
Tin	ppm	ASTM D5185m >2	0	0	<1
Vanadium	ppm	ASTM D5185m	0	0	<1
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 250	23	12	19
Barium	ppm	ASTM D5185m 10	0	0	0
Molybdenum	ppm	ASTM D5185m 100	57	67	82
Manganese	ppm	ASTM D5185m	1	0	1
Magnesium	ppm	ASTM D5185m 450	147	729	810
Calcium	ppm	ASTM D5185m 3000	3016	1333	1710
Phosphorus	ppm	ASTM D5185m 1150	1251	1013	1198
Zinc	ppm	ASTM D5185m 1350	1562	1290	1536
Sulfur	ppm	ASTM D5185m 4250	5621	3105	4128

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >35	10	4	5
Sodium	ppm	ASTM D5185m >158	29	27	15
Potassium	ppm	ASTM D5185m >20	42	40	22
Fuel	%	ASTM D3524 >5	▲ 7.4	<1.0	<1.0
Glycol	%	*ASTM D2982	NEG	NEG	NEG

INFRA-RED

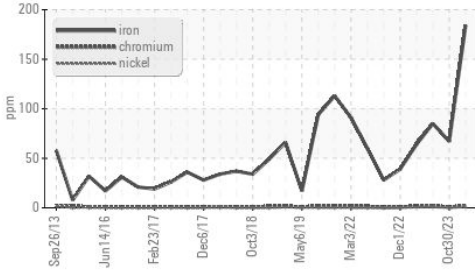
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	0.6	0.7	0.7
Nitration	Abs/cm	*ASTM D7624 >20	11.4	11.5	12.9
Sulfation	Abs/.1mm	*ASTM D7415 >30	25.9	24.6	28.7

FLUID DEGRADATION

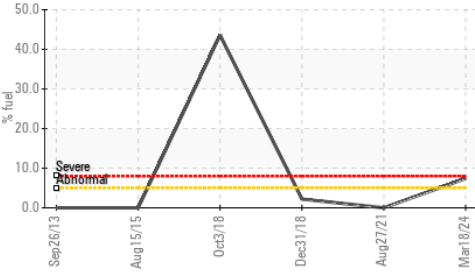
	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	25.1	23.2	28.4
Base Number (BN)	mg KOH/g	ASTM D2896 8.5	5.85	6.71	7.69

OIL ANALYSIS REPORT

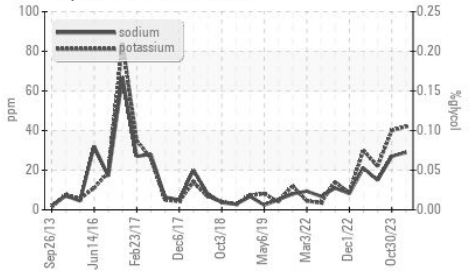
▲ Ferrous Alloys



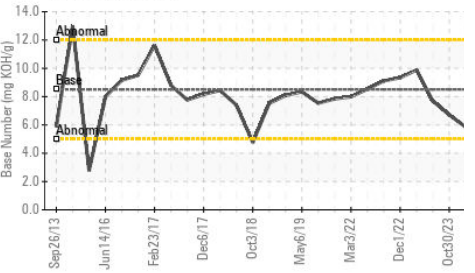
▲ Fuel Dilution



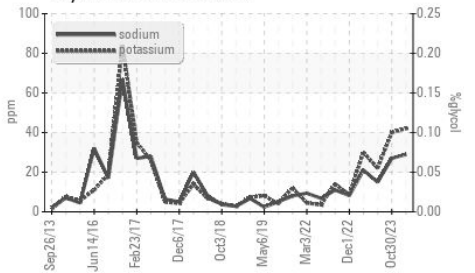
▲ Glycol Contamination



▲ Base Number



▲ Glycol Contamination



VISUAL

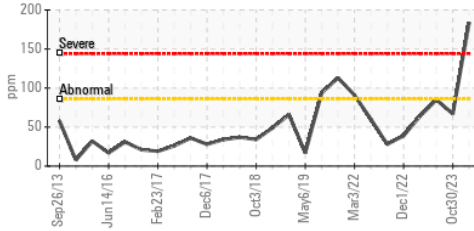
	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	▲ MODER	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*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

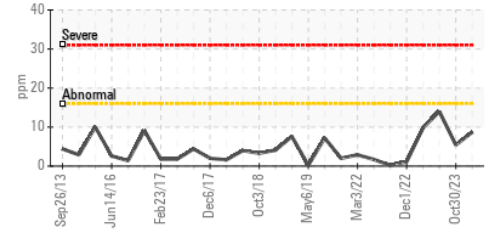
	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14.4	▲ 11.9	13.6

GRAPHS

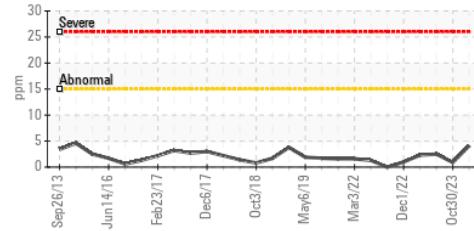
▲ Iron (ppm)



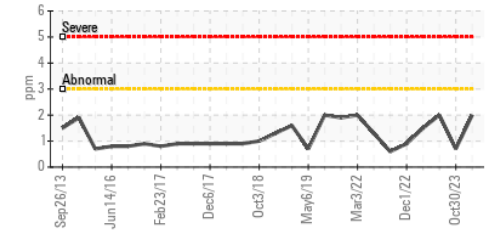
▲ Lead (ppm)



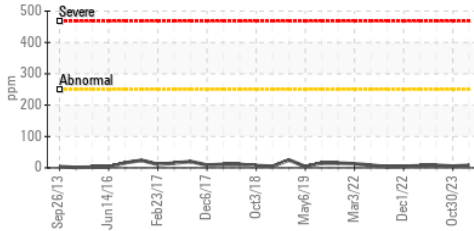
▲ Aluminum (ppm)



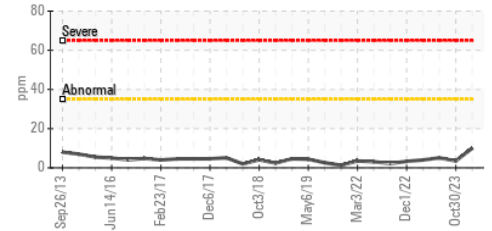
▲ Chromium (ppm)



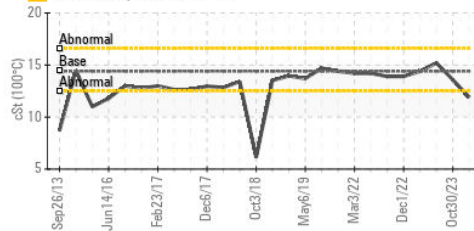
▲ Copper (ppm)



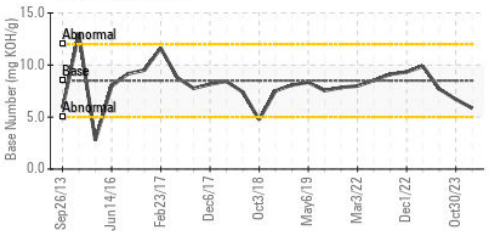
▲ Silicon (ppm)



▲ Viscosity @ 100°C



▲ Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : PCA0109576

Lab Number : 06130807

Unique Number : 10950272

Test Package : MOB 2 (Additional Tests: FuelDilution, Glycol, PercentFuel)

Received : 27 Mar 2024

Tested : 02 Apr 2024

Diagnosed : 02 Apr 2024 - Jonathan Hester

TRESCA BROS SAND & GRAVEL INC

66 MAIN ST

MILLIS, MA

US 02054

Contact: FRAN ROSSI

frossi@trescaconcrete.com

T: (508)376-2957

F: (508)376-4333

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)