



WEAR	<b>NORMAL</b>
CONTAMINATION	<b>NORMAL</b>
FLUID CONDITION	<b>ATTENTION</b>



Machine Id  
**CATERPILLAR LOADER L-9**  
Component  
**Diesel Engine**  
Fluid  
**DIESEL ENGINE OIL SAE 15W40 (--- GAL)**

**RECOMMENDATION**

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>PCA0109569</b>	LP0000171	WC0542527
Sample Date		Client Info		<b>02 Mar 2024</b>	19 Aug 2023	18 Oct 2021
Machine Age	hrs	Client Info		<b>43884</b>	42784	41107
Oil Age	hrs	Client Info		<b>500</b>	500	500
Filter Age	hrs	Client Info		<b>500</b>	500	500
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>ATTENTION</b>	ATTENTION	ATTENTION

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>37</b>	35	19
Chromium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>2	<b>0</b>	<1	<1
Titanium	ppm	ASTM D5185m	>2	<b>&lt;1</b>	0	<1
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>25	<b>3</b>	<1	2
Lead	ppm	ASTM D5185m	>40	<b>1</b>	2	4
Copper	ppm	ASTM D5185m	>330	<b>10</b>	10	2
Tin	ppm	ASTM D5185m	>15	<b>0</b>	<1	0
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

**CONTAMINATION**

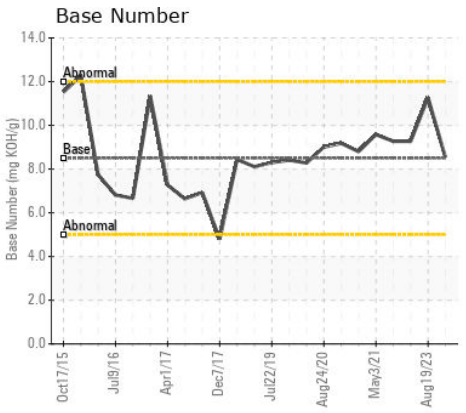
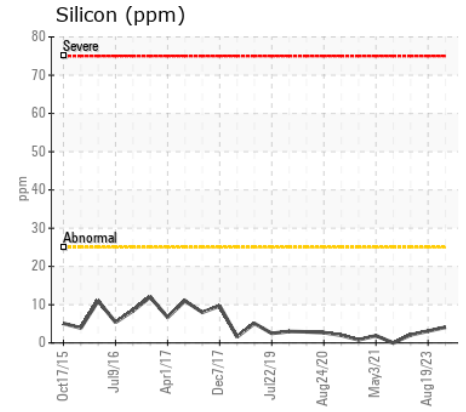
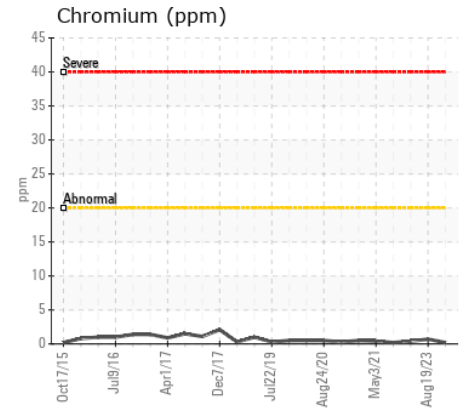
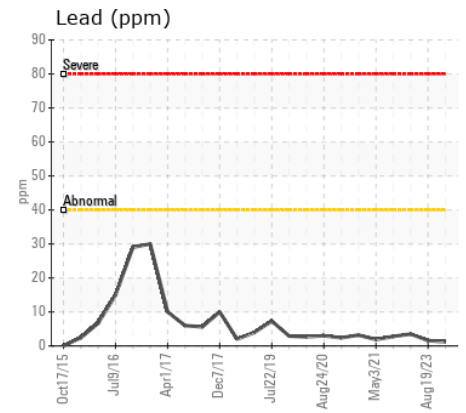
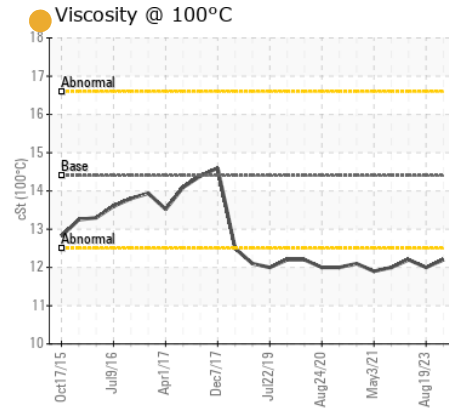
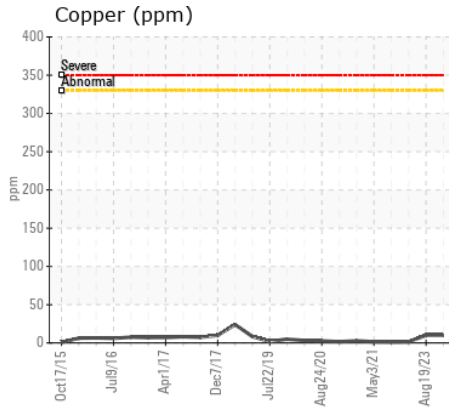
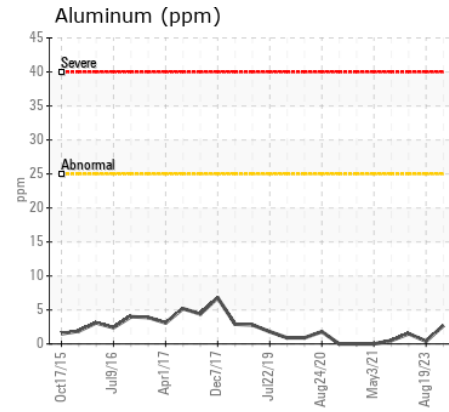
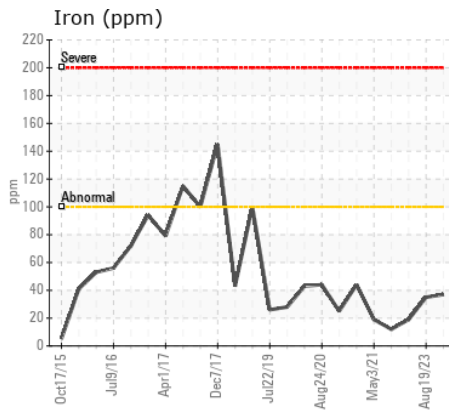
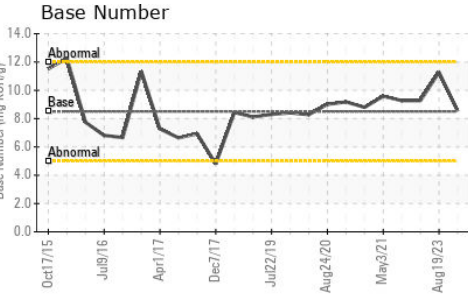
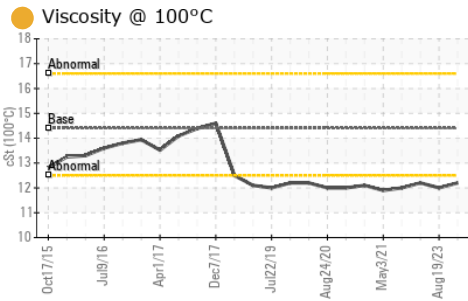
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>4</b>	3	2
Potassium	ppm	ASTM D5185m	>20	<b>4</b>	<1	2
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.4</b>	0.7	0.5
Nitration	Abs/cm	*ASTM D7624	>20	<b>6.9</b>	7.1	7
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>16.7</b>	19.4	19.1
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	<b>NEG</b>	NEG	NEG

**FLUID CONDITION**

The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

Sodium	ppm	ASTM D5185m	>158	<b>&lt;1</b>	1	2
Boron	ppm	ASTM D5185m	250	<b>12</b>	5	10
Barium	ppm	ASTM D5185m	10	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	100	<b>29</b>	67	64
Manganese	ppm	ASTM D5185m		<b>0</b>	<1	<1
Magnesium	ppm	ASTM D5185m	450	<b>287</b>	1051	1080
Calcium	ppm	ASTM D5185m	3000	<b>1964</b>	1288	1295
Phosphorus	ppm	ASTM D5185m	1150	<b>1062</b>	1206	1110
Zinc	ppm	ASTM D5185m	1350	<b>1140</b>	1486	1283
Sulfur	ppm	ASTM D5185m	4250	<b>3657</b>	4241	4621
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>10.7</b>	14.0	14.2
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	<b>8.54</b>	11.27	9.27
Visc @ 100°C	cSt	ASTM D445	14.4	<b>12.2</b>	12.0	12.2



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : PCA0109569  
**Lab Number** : 06121747  
**Unique Number** : 10930580  
**Test Package** : MOB 2

**Received** : 18 Mar 2024  
**Tested** : 19 Mar 2024  
**Diagnosed** : 21 Mar 2024 - Sean Felton

**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)