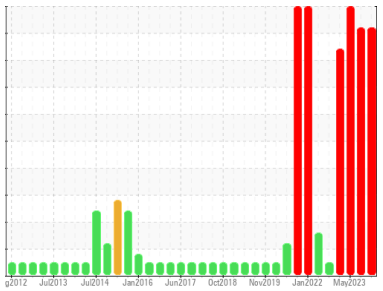
OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL

Machine Id
ADV MIXER 183
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 15W40 (10 GAL)

DIAGNOSIS

Recommendation
We advise that you check for the source of the coolant leak. Check for low coolant level. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Wear
The copper level is abnormal. In the absence of other significant wear metals, suspect copper due to sources other than wear (i.e. cooling core).

Contamination
Sodium and/or potassium levels are high. Test for glycol is positive.

Fluid Condition
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		**LP0001454**	WC0661666	WC0661738
Sample Date		Client Info		**11 Jun 2024**	26 Jun 2023	08 May 2023
Machine Age	hrs	Client Info		**40000**	40000	40000
Oil Age	hrs	Client Info		**500**	500	500
Oil Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**SEVERE**	SEVERE	SEVERE

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>5	**<1.0**	▲ 4.2	▲ 39.8
Water		WC Method	>0.2	**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>85	**7**	20	21
Chromium	ppm	ASTM D5185m	>4	**<1**	<1	2
Nickel	ppm	ASTM D5185m	>4	**<1**	<1	<1
Titanium	ppm	ASTM D5185m	>2	**<1**	0	0
Silver	ppm	ASTM D5185m	>2	**<1**	0	0
Aluminum	ppm	ASTM D5185m	>15	**2**	2	2
Lead	ppm	ASTM D5185m	>20	**<1**	2	2
Copper	ppm	ASTM D5185m	>250	▲ **383**	140	109
Tin	ppm	ASTM D5185m	>5	**<1**	<1	<1
Vanadium	ppm	ASTM D5185m		**0**	<1	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	250	**9**	5	3
Barium	ppm	ASTM D5185m	10	**0**	0	0
Molybdenum	ppm	ASTM D5185m	100	**28**	132	100
Manganese	ppm	ASTM D5185m		**<1**	<1	<1
Magnesium	ppm	ASTM D5185m	450	**74**	581	384
Calcium	ppm	ASTM D5185m	3000	**1947**	1273	▲ 562
Phosphorus	ppm	ASTM D5185m	1150	**877**	969	576
Zinc	ppm	ASTM D5185m	1350	**943**	1138	▲ 643
Sulfur	ppm	ASTM D5185m	4250	**3962**	3932	2261

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**7**	5	6
Sodium	ppm	ASTM D5185m	>158	▲ **187**	● 466	● 458
Potassium	ppm	ASTM D5185m	>20	▲ **273**	▲ 634	▲ 603
Glycol	%	*ASTM D2982		▲ **0.10**	▲ 0.10	▲ 0.10

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**0.1**	0.3	0.2
Nitration	Abs/cm	*ASTM D7624	>20	**6.8**	10.3	9.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	**15.5**	20.7	19.4

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**9.8**	18.0	17.9
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	**9.46**	12.32	6.19

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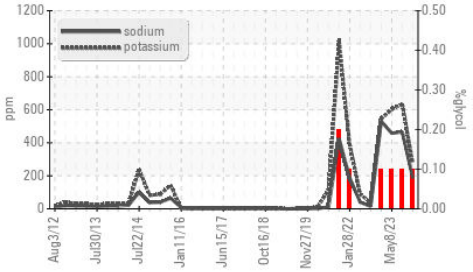
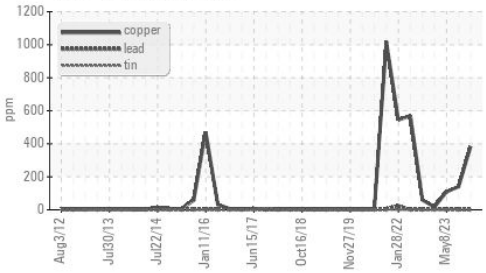
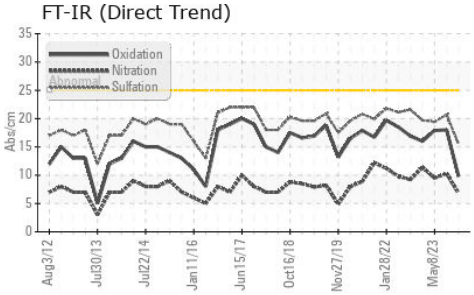
▲ Glycol Contamination



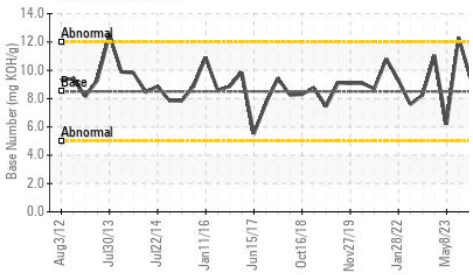
▲ Non-ferrous Metals



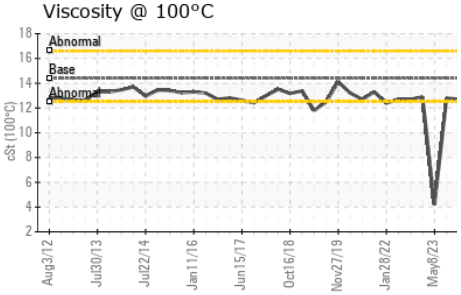
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C

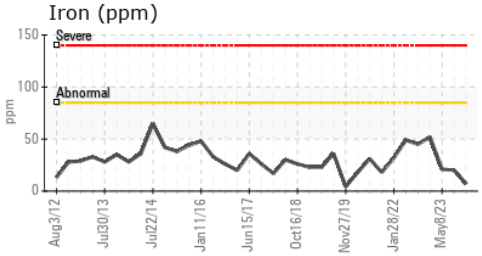


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

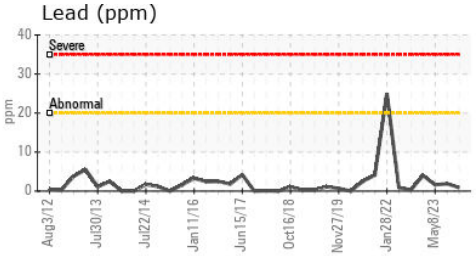
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14.4	**12.7**	12.8	▲ 4.2

GRAPHS

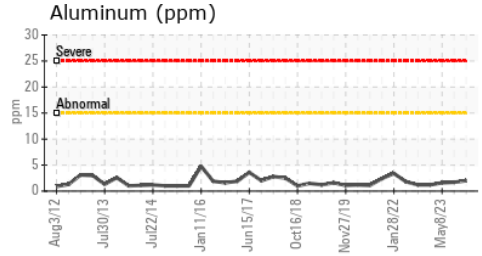
Iron (ppm)



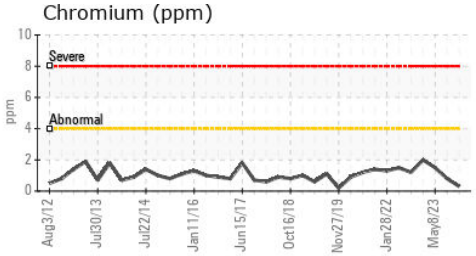
Lead (ppm)



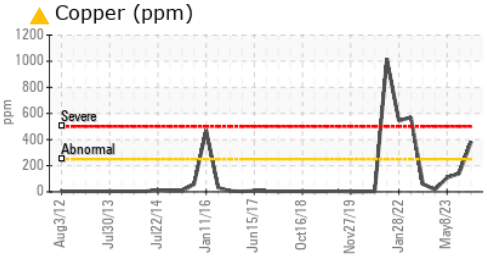
Aluminum (ppm)



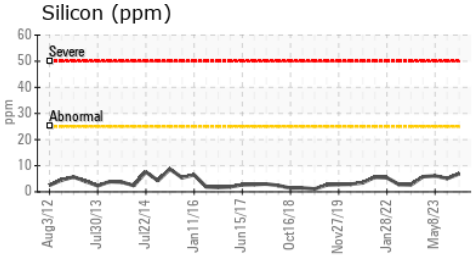
Chromium (ppm)



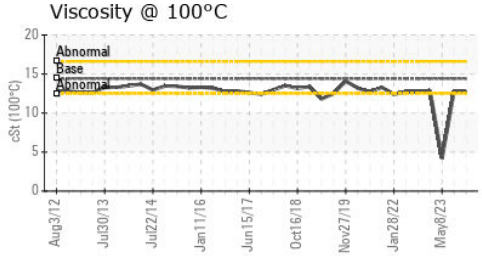
▲ Copper (ppm)



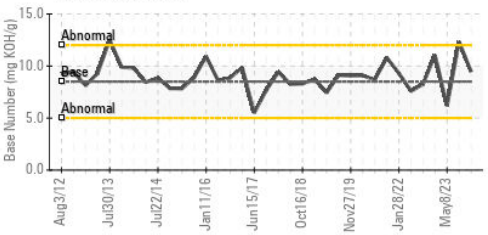
Silicon (ppm)



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LP0001454
Lab Number : 06212562
Unique Number : 11085426
Test Package : MOB 2

Received : 17 Jun 2024
Tested : 20 Jun 2024
Diagnosed : 20 Jun 2024 - Jonathan Hester

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)

TRESCA BROS SAND & GRAVEL INC
66 MAIN ST
MILLIS, MA
US 02054
Contact: JACK GALIANO
jgaliano@trescaconcrete.com
T: (508)376-2957
F: (508)376-4333

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Submitted By: JOHN HATZISTEFANOU