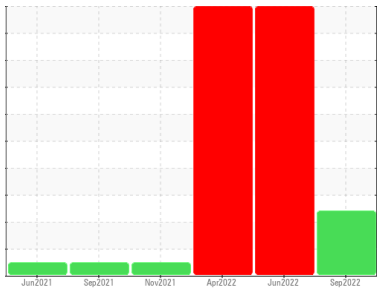
OIL ANALYSIS REPORT

Sample Rating Trend



DIRT

Area
NOG SON [CONHER]
Machine Id
PETERBILT TRC-109 AMSA
Component
Front Diesel Engine
Fluid
CHEVRON 15W40 (50 LTR)

DIAGNOSIS

Recommendation
We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Resample at the next service interval to monitor. (Customer Sample Comment: Looking for wear)

Wear
All component wear rates are normal.

Contamination
Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

Fluid Condition
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**KL0010198**	KL0010197	KL0010174
Sample Date		Client Info		**11 Sep 2022**	11 Jun 2022	13 Apr 2022
Machine Age	kms	Client Info		**1769318**	1733846	1713023
Oil Age	kms	Client Info		**166700**	131228	110405
Oil Changed		Client Info		**Not Changd**	Not Changd	Not Changd
Sample Status				**ABNORMAL**	SEVERE	SEVERE

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	**<1.0**	<1.0	<1.0
Water		WC Method	>0.2	**NEG**	NEG	NEG
Glycol		WC Method		**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>165	**120**	237	241
Chromium	ppm	ASTM D5185m	>5	**3**	13	17
Nickel	ppm	ASTM D5185m	>4	**0**	0	0
Titanium	ppm	ASTM D5185m		**<1**	2	3
Silver	ppm	ASTM D5185m		**0**	0	0
Aluminum	ppm	ASTM D5185m	>20	**14**	60	69
Lead	ppm	ASTM D5185m	>150	**1**	4	4
Copper	ppm	ASTM D5185m	>90	**5**	9	9
Tin	ppm	ASTM D5185m	>5	**<1**	1	2
Antimony	ppm	ASTM D5185m		**---**	---	---
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		**3**	2	4
Barium	ppm	ASTM D5185m		**0**	0	0
Molybdenum	ppm	ASTM D5185m		**5**	11	5
Manganese	ppm	ASTM D5185m		**1**	4	4
Magnesium	ppm	ASTM D5185m		**163**	882	973
Calcium	ppm	ASTM D5185m		**3269**	1830	2111
Phosphorus	ppm	ASTM D5185m		**901**	940	1096
Zinc	ppm	ASTM D5185m		**1122**	1211	1394
Sulfur	ppm	ASTM D5185m		**3710**	2931	2969

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>35	**46**	201	245
Sodium	ppm	ASTM D5185m	>50	**5**	21	25
Potassium	ppm	ASTM D5185m	>20	**6**	23	31

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>7.5	**0.6**	0.9	0.7
Nitration	Abs/cm	*ASTM D7624	>20	**8.7**	10.1	8.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	**20.2**	24.3	22.1

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**11.4**	13.4	12.3
Base Number (BN)	mg KOH/g	ASTM D2896		**10.2**	10.2	9.4

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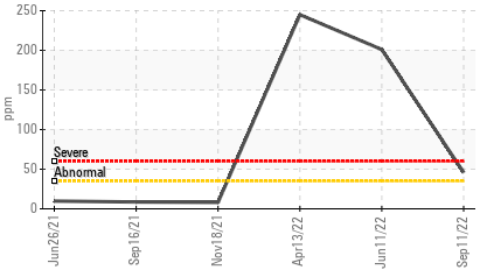
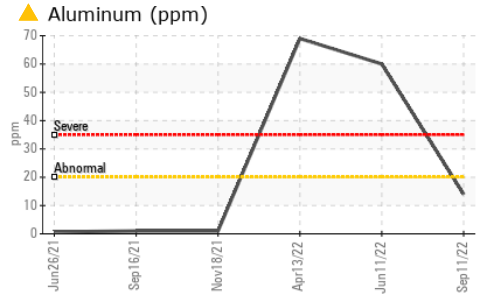
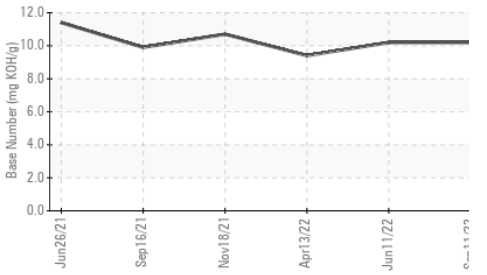
Silicon (ppm)



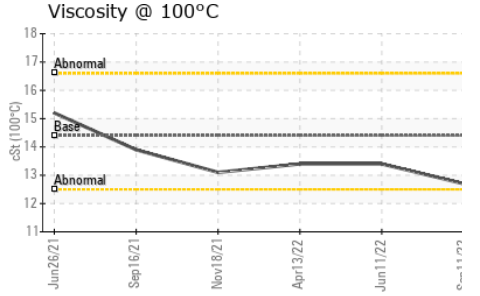
Aluminum (ppm)



Base Number



Viscosity @ 100°C

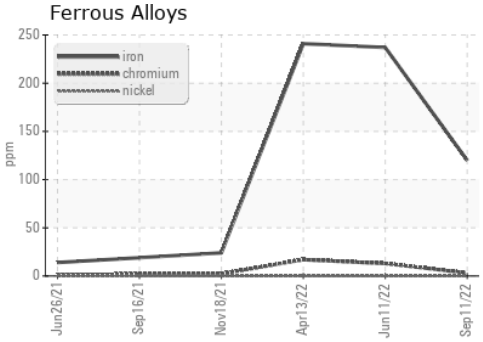


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

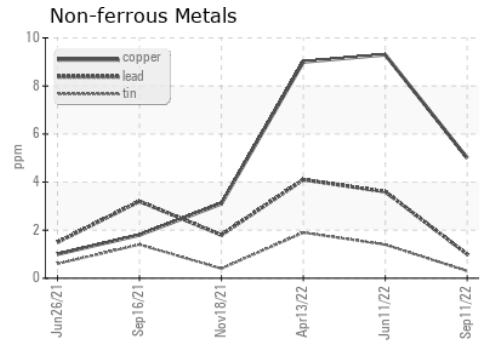
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14.4	**12.7**	13.4	13.4

GRAPHS

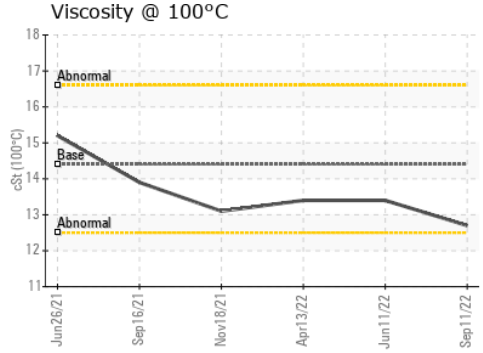
Ferrous Alloys



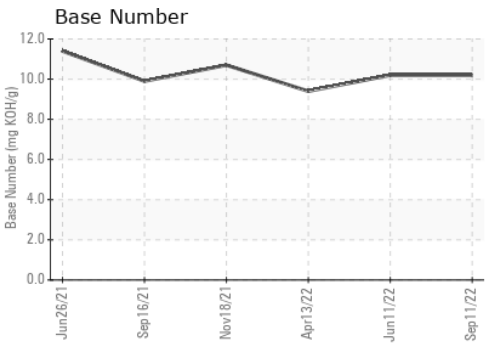
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KL0010198
Lab Number : 05687785
Unique Number : 10207357
Test Package : FLEET

Received : 08 Nov 2022
Tested : 09 Nov 2022
Diagnosed : 10 Nov 2022 - Don Baldridge

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)

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