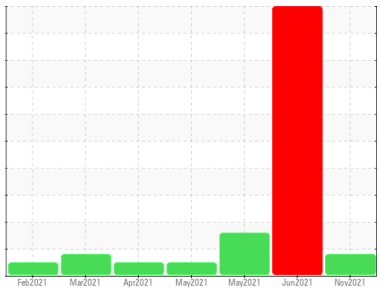
OIL ANALYSIS REPORT

Area
GUAY SON/Yavaros
Machine Id
CATERPILLAR Pacifico industrial PISA2 MP
Component
Diesel Engine
Fluid
CHEVRON DELO 400 SDE SAE 15W40 (100 LTR)

Sample Rating Trend



SOOT

DIAGNOSIS

Recommendation

We advise that you check for faulty combustion, plugged air filters, or aftercoolers. We recommend you service the filters on this component. Resample at the next service interval to monitor. (Customer Sample Comment: Rush)

Wear

All component wear rates are normal.

Contamination

There is an abnormal amount of solids and carbon present in the oil. Test for glycol is negative.

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	history 1	history 2
Sample Number		Client Info		**KL0007616**	KL0007456	KL0006067
Sample Date		Client Info		**10 Nov 2021**	26 Jun 2021	25 May 2021
Machine Age	hrs	Client Info		**32980**	32780	32448
Oil Age	hrs	Client Info		**200**	332	453
Oil Changed		Client Info		**N/A**	Not Changd	Changed
Sample Status				**ABNORMAL**	SEVERE	ABNORMAL

CONTAMINATION		method	limit/base	current	history 1	history 2
Fuel		WC Method	>5	**<1.0**	<1.0	<1.0

WEAR METALS		method	limit/base	current	history 1	history 2
Iron	ppm	ASTM D5185m	>100	**30**	36	38
Chromium	ppm	ASTM D5185m	>20	**1**	<1	1
Nickel	ppm	ASTM D5185m	>2	**<1**	<1	<1
Titanium	ppm	ASTM D5185m	>2	**<1**	0	<1
Silver	ppm	ASTM D5185m	>2	**0**	<1	<1
Aluminum	ppm	ASTM D5185m	>25	**4**	2	5
Lead	ppm	ASTM D5185m	>40	**2**	16	3
Copper	ppm	ASTM D5185m	>330	**107**	124	▲ 372
Tin	ppm	ASTM D5185m	>15	**0**	4	<1
Antimony	ppm	ASTM D5185m		**0**	1	<1
Vanadium	ppm	ASTM D5185m		**0**	0	<1
Cadmium	ppm	ASTM D5185m		**<1**	<1	<1

ADDITIVES		method	limit/base	current	history 1	history 2
Boron	ppm	ASTM D5185m		**153**	157	163
Barium	ppm	ASTM D5185m		**0**	0	0
Molybdenum	ppm	ASTM D5185m		**111**	122	129
Manganese	ppm	ASTM D5185m		**1**	1	<1
Magnesium	ppm	ASTM D5185m		**767**	▲ 272	723
Calcium	ppm	ASTM D5185m		**1722**	▲ 663	1653
Phosphorus	ppm	ASTM D5185m	760	**674**	▲ 325	715
Zinc	ppm	ASTM D5185m	800	**813**	▲ 421	875
Sulfur	ppm	ASTM D5185m	3000	**3053**	▲ 1293	2149

CONTAMINANTS		method	limit/base	current	history 1	history 2
Silicon	ppm	ASTM D5185m	>25	**5**	5	5
Sodium	ppm	ASTM D5185m		**2**	▲ 496	2
Potassium	ppm	ASTM D5185m	>20	**<1**	3	<1
Water	%	ASTM D6304	>0.2	**---**	⬢ 2.41	---
ppm Water	ppm	ASTM D6304	>2000	**---**	⬢ 24100	---
Glycol	%	*ASTM D2982		**NEG**	⬢ 0.12	0.0

INFRA-RED		method	limit/base	current	history 1	history 2
Soot %	%	*ASTM D7844	>3	▲ **4.1**	1.2	▲ 3.7
Nitration	Abs/cm	*ASTM D7624	>20	**14.7**	39.3	11.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	**27.9**	0	31.9

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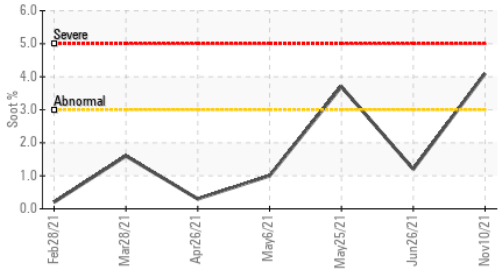
FLUID DEGRADATION		method	limit/base	current	history 1	history 2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**18.6**	34.2	20.3
Base Number (BN)	mg KOH/g	ASTM D2896	10	**6.1**	▲ 51.8	6.2

VISUAL		method	limit/base	current	history 1	history 2
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

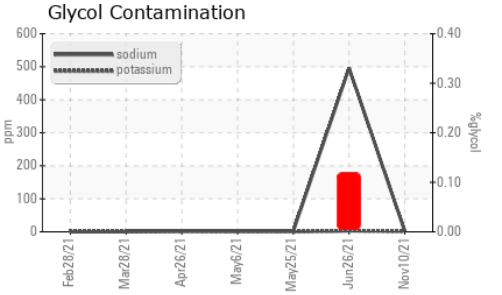
FLUID PROPERTIES		method	limit/base	current	history 1	history 2
Visc @ 100°C	cSt	ASTM D445	14.6	**14.1**	▲ 22.1	15.7

GRAPHS

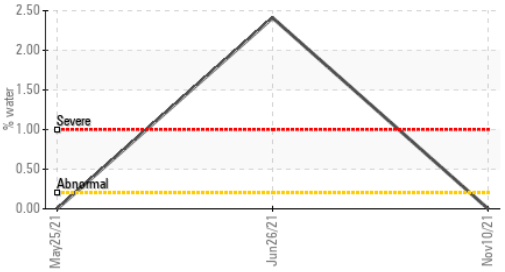
▲ Soot %



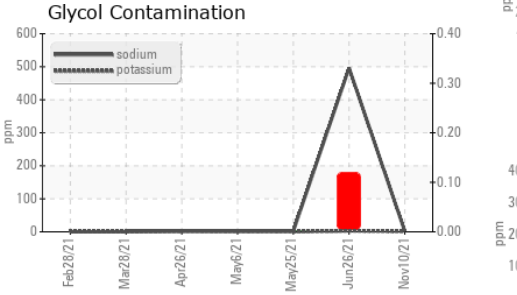
Glycol Contamination



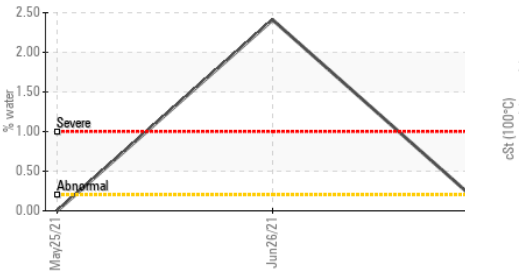
Water



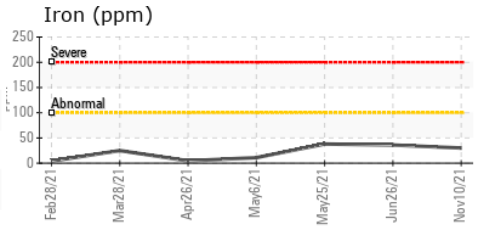
Glycol Contamination



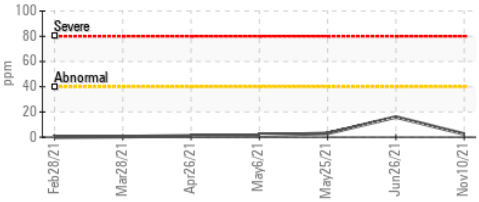
Water



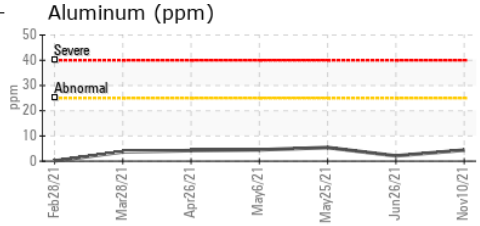
Iron (ppm)



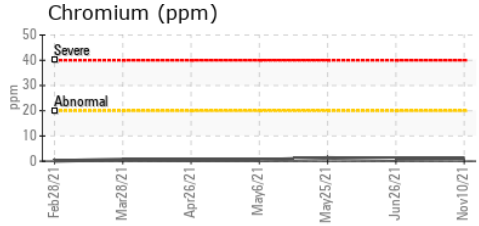
Lead (ppm)



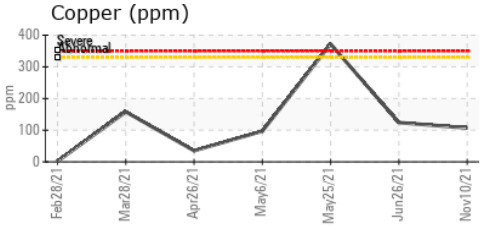
Aluminum (ppm)



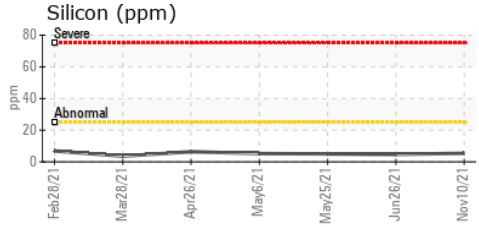
Chromium (ppm)



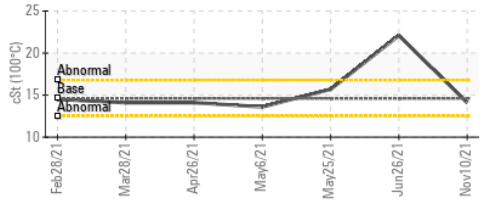
Copper (ppm)



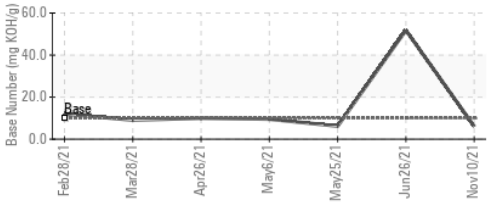
Silicon (ppm)



Viscosity @ 100°C



Base Number



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KL0007616 **Received** : 15 Nov 2021
Lab Number : 05400795 **Diagnosed** : 16 Nov 2021
Unique Number : 9739945 **Diagnostician** : Doug Bogart
Test Package : MOB1+ (Additional Tests: KF)

Certificate L2367

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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