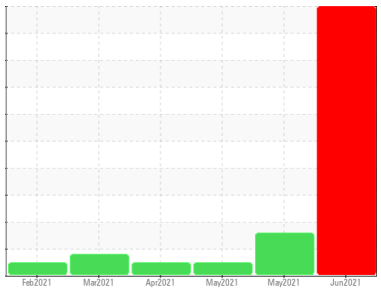
OIL ANALYSIS REPORT

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

Sample Rating Trend



GLYCOL

DIAGNOSIS

Recommendation
We advise that you check for the source of the coolant leak. We recommend that you drain the oil and perform a filter service on this component if not already done. We recommend an early resample to monitor this condition. Please note that this is a corrected copy for laboratory data updates. NOTE: High contamination in the sample have limited the accuracy of Infra-Red data including Total Base Number (TBN) value.

Wear
All component wear rates are normal.

Contamination
Sodium and/or potassium levels are high. Test for glycol is positive. There is a high concentration of water present in the oil.

Fluid Condition
The oil viscosity is higher than normal. The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**KL0007456**	KL0006067	KL0006754
Sample Date		Client Info		**26 Jun 2021**	25 May 2021	06 May 2021
Machine Age	hrs	Client Info		**32780**	32448	32121
Oil Age	hrs	Client Info		**332**	453	126
Oil Changed		Client Info		**Not Changd**	Changed	Not Changd
Sample Status				**SEVERE**	ABNORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>5	**<1.0**	<1.0	<1.0

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	**36**	38	11
Chromium	ppm	ASTM D5185m	>20	**<1**	1	<1
Nickel	ppm	ASTM D5185m	>2	**<1**	<1	<1
Titanium	ppm	ASTM D5185m	>2	**0**	<1	<1
Silver	ppm	ASTM D5185m	>2	**<1**	<1	<1
Aluminum	ppm	ASTM D5185m	>25	**2**	5	4
Lead	ppm	ASTM D5185m	>40	**16**	3	2
Copper	ppm	ASTM D5185m	>330	**124**	▲ 372	97
Tin	ppm	ASTM D5185m	>15	**4**	<1	<1
Antimony	ppm	ASTM D5185m		**1**	<1	0
Vanadium	ppm	ASTM D5185m		**0**	<1	<1
Cadmium	ppm	ASTM D5185m		**<1**	<1	0

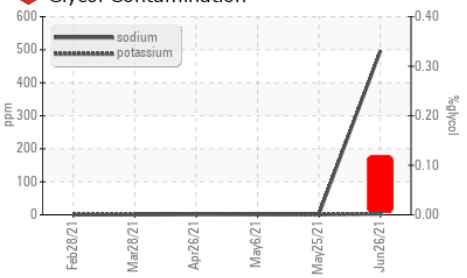
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**157**	163	295
Barium	ppm	ASTM D5185m		**0**	0	0
Molybdenum	ppm	ASTM D5185m		**122**	129	126
Manganese	ppm	ASTM D5185m		**1**	<1	<1
Magnesium	ppm	ASTM D5185m		▲ **272**	723	699
Calcium	ppm	ASTM D5185m		▲ **663**	1653	1593
Phosphorus	ppm	ASTM D5185m		▲ **325**	715	749
Zinc	ppm	ASTM D5185m		▲ **421**	875	857
Sulfur	ppm	ASTM D5185m		▲ **1293**	2149	2361

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**5**	5	5
Sodium	ppm	ASTM D5185m		▲ **496**	2	1
Potassium	ppm	ASTM D5185m	>20	**3**	<1	1
Water	%	ASTM D6304	>0.2	● **2.41**	---	---
ppm Water	ppm	ASTM D6304	>2000	● **24100**	---	---
Glycol	%	*ASTM D2982		● **0.12**	0.0	NEG

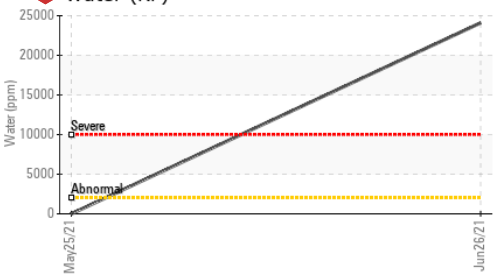
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**1.2**	▲ 3.7	1
Nitration	Abs/cm	*ASTM D7624	>20	**39.3**	11.8	6.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	**0**	31.9	26.3

OIL ANALYSIS REPORT

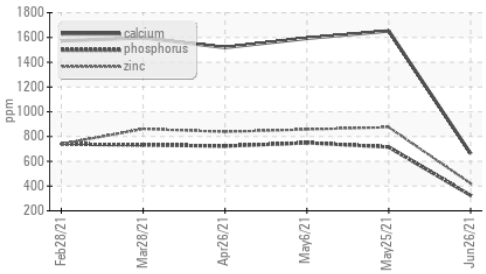
Glycol Contamination



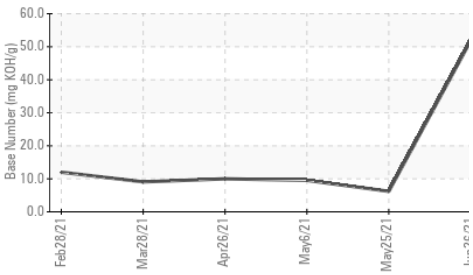
Water (KF)



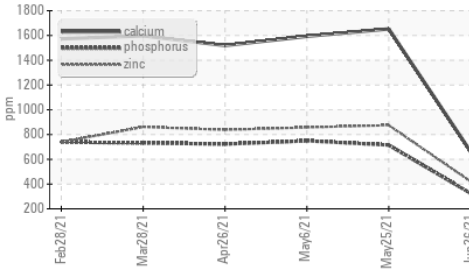
Additives



Base Number



Additives



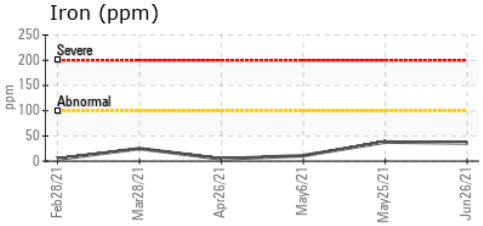
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**34.2**	20.3	17.1
Base Number (BN)	mg KOH/g	ASTM D2896		▲ **51.8**	6.2	9.54

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

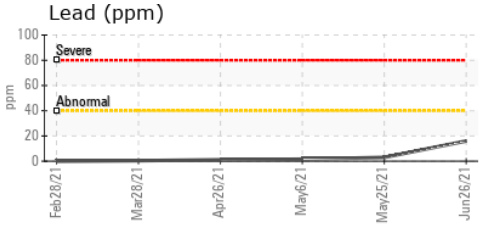
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445		▲ **22.1**	15.7	13.6

GRAPHS

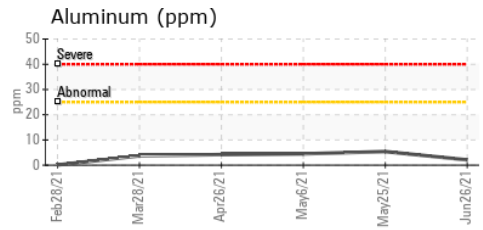
Iron (ppm)



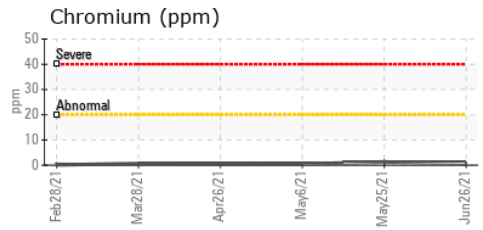
Lead (ppm)



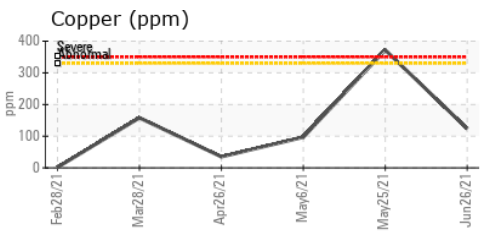
Aluminum (ppm)



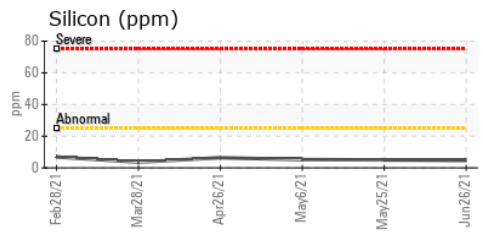
Chromium (ppm)



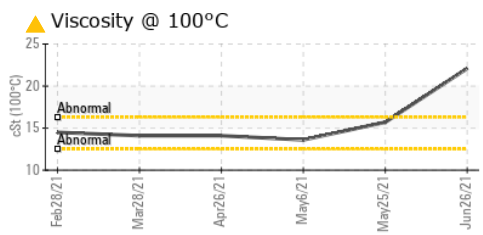
Copper (ppm)



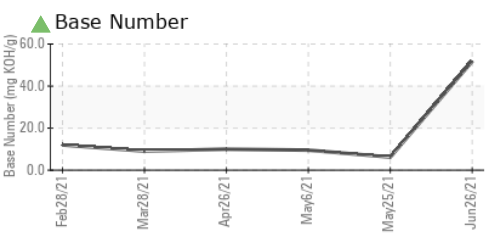
Silicon (ppm)



▲ Viscosity @ 100°C



▲ Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KL0007456 **Received** : 08 Jul 2021
Lab Number : 05297467 **Tested** : 14 Jul 2021
Unique Number : 9571422 **Diagnosed** : 14 Jul 2021 - Doug Bogart
Test Package : MOB1+ (Additional Tests: Glycol, KF)

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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