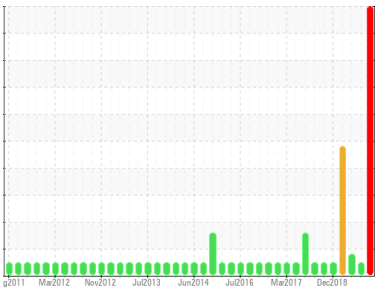
OIL ANALYSIS REPORT

Area
KEMP QUARRIES / HULBERT
Machine Id
WL030
Component
Diesel Engine
Fluid
MOBIL DELVAC 1300 SUPER15W40 (--- GAL)

Sample Rating Trend



GLYCOL

DIAGNOSIS

Recommendation
We advise that you check for the source of the coolant leak. Oil and filter change at the time of sampling has been noted. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.

Wear
Bearing and/or bushing wear is indicated.

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. The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**PCA0086831**	PCA0025286	PCA0017241
Sample Date		Client Info		**26 Jul 2023**	16 Jul 2020	02 Apr 2020
Machine Age	hrs	Client Info		**6169**	5097	4617
Oil Age	hrs	Client Info		**0**	523	523
Oil Changed		Client Info		**Changed**	N/A	N/A
Sample Status				**SEVERE**	NORMAL	ABNORMAL

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	>86	**67**	68	42
Chromium	ppm	ASTM D5185m	>3	**2**	2	1
Nickel	ppm	ASTM D5185m	>3	**<1**	1	<1
Titanium	ppm	ASTM D5185m	>2	**0**	<1	<1
Silver	ppm	ASTM D5185m	>2	**0**	<1	<1
Aluminum	ppm	ASTM D5185m	>15	**2**	<1	2
Lead	ppm	ASTM D5185m	>16	**43**	4	3
Copper	ppm	ASTM D5185m	>250	**478**	234	747
Tin	ppm	ASTM D5185m	>2	**5**	4	3
Antimony	ppm	ASTM D5185m		**---**	0	0
Vanadium	ppm	ASTM D5185m		**0**	0	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	**4**	14	80
Barium	ppm	ASTM D5185m	0	**0**	0	<1
Molybdenum	ppm	ASTM D5185m	0	**139**	51	15
Manganese	ppm	ASTM D5185m		**<1**	<1	<1
Magnesium	ppm	ASTM D5185m	0	**935**	857	667
Calcium	ppm	ASTM D5185m		**1016**	1122	1352
Phosphorus	ppm	ASTM D5185m		**999**	898	711
Zinc	ppm	ASTM D5185m		**1197**	1097	835
Sulfur	ppm	ASTM D5185m		**2732**	2502	2256

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>35	**10**	13	20
Sodium	ppm	ASTM D5185m		**693**	6	5
Potassium	ppm	ASTM D5185m	>20	**29**	2	3
Glycol	%	*ASTM D2982		**0.10**	NEG	NEG

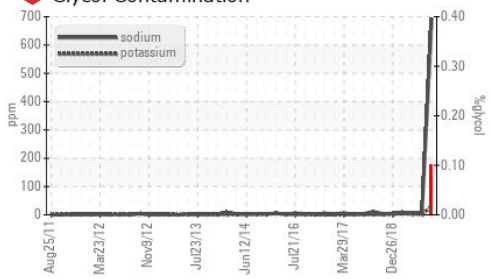
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**0.4**	0.7	0.4
Nitration	Abs/cm	*ASTM D7624	>20	**15.0**	9.7	10.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	**21.6**	21.4	21

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**19.5**	16.9	17
Base Number (BN)	mg KOH/g	ASTM D2896	9.4	**10.5**	---	---

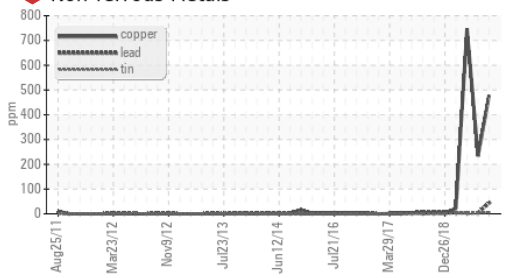
OIL DIAGNOSTICS

OIL ANALYSIS REPORT

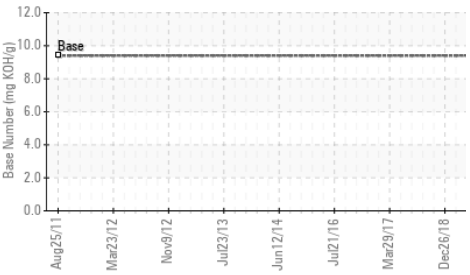
Glycol Contamination



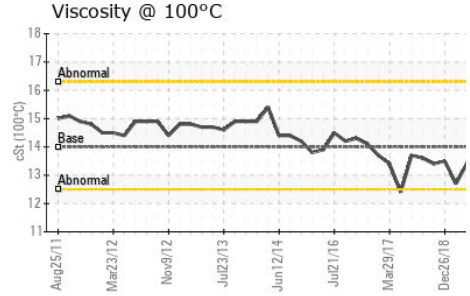
Non-ferrous Metals



Base Number



Viscosity @ 100°C

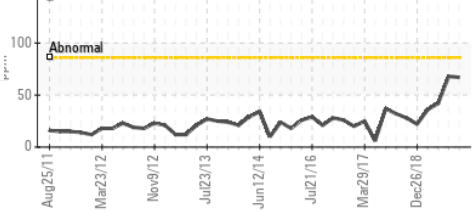


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

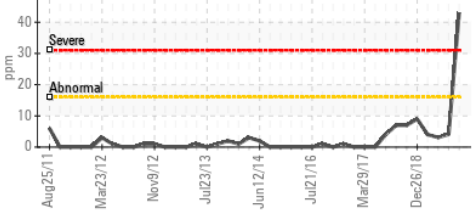
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14	**13.9**	13.5	13.4

GRAPHS

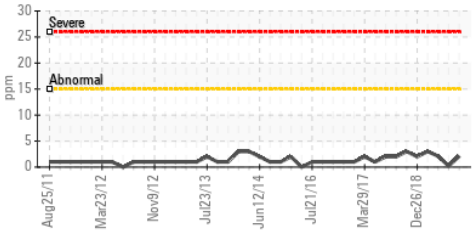
Iron (ppm)



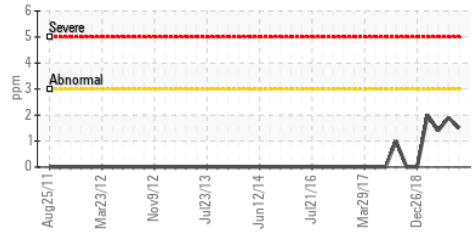
Lead (ppm)



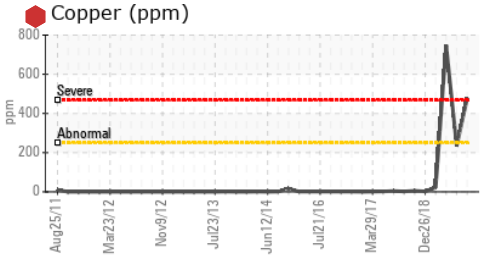
Aluminum (ppm)



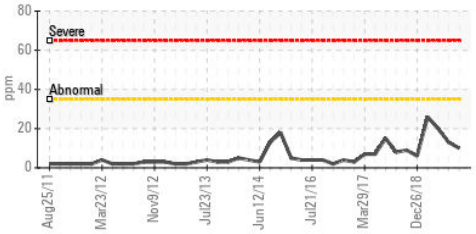
Chromium (ppm)



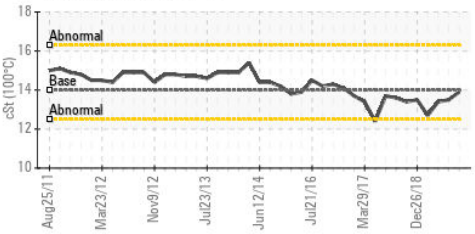
Copper (ppm)



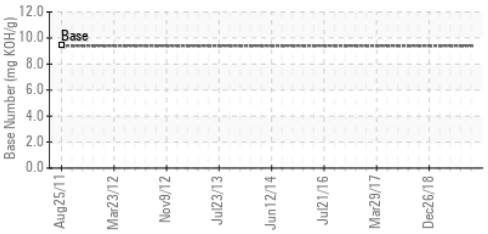
Silicon (ppm)



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0086831 **Received** : 04 Oct 2023
Lab Number : 05969552 **Diagnosed** : 12 Oct 2023
Unique Number : 10676103 **Diagnostician** : Doug Bogart
Test Package : MOB 1 (Additional Tests: Glycol, TBN)

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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Report Id: KEMHUL [WUSCAR] 05969552 (Generated: 10/12/2023 20:07:42) Rev: 1

Submitted By: