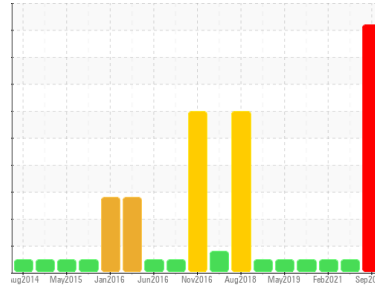


OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL



Area
KEMP QUARRIES / RIVER VALLEY MATERIALS - FT. SMITH TRANS LOAD 01
Machine Id
WL082
Component
Diesel Engine
Fluid
MOBIL DELVAC 1300 SUPER15W40 (--- GAL)

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 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). All other component wear rates are normal.

Contamination

Sodium and/or potassium levels are high. There is a high concentration of glycol present in the oil.

Fluid Condition

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

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		PCA0062704	PCA0038275	PCA0017551
Sample Date	Client Info		23 Sep 2022	09 Nov 2021	22 Feb 2021
Machine Age	hrs	Client Info	31388	30871	30284
Oil Age	hrs	Client Info	31388	30871	0
Oil Changed	Client Info		Changed	Changed	Changed
Sample Status			SEVERE	NORMAL	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	48	58	45
Chromium	ppm	ASTM D5185m	>20	1	<1	1
Nickel	ppm	ASTM D5185m	>2	0	<1	0
Titanium	ppm	ASTM D5185m	>2	<1	<1	<1
Silver	ppm	ASTM D5185m	>2	0	<1	<1
Aluminum	ppm	ASTM D5185m	>25	4	2	3
Lead	ppm	ASTM D5185m	>40	27	13	11
Copper	ppm	ASTM D5185m	>330	451	54	26
Tin	ppm	ASTM D5185m	>15	2	<1	0
Antimony	ppm	ASTM D5185m		---	0	0
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		<1	<1	0

ADDITIVES

	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m	0	11	0	33
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	0	70	61	32
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	0	903	926	674
Calcium	ppm	ASTM D5185m		1123	1166	1520
Phosphorus	ppm	ASTM D5185m		1041	972	769
Zinc	ppm	ASTM D5185m		1233	1202	915
Sulfur	ppm	ASTM D5185m		3572	2457	2187

CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m	>25	13	7	15
Sodium	ppm	ASTM D5185m		335	61	60
Potassium	ppm	ASTM D5185m	>20	264	47	41
Glycol	%	*ASTM D2982		0.10	0.0	NEG

INFRA-RED

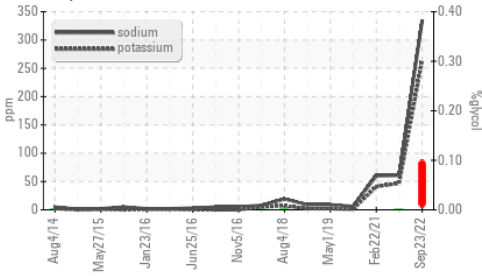
	method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844	>3	1.2	1.3	0.8
Nitration	Abs/cm	*ASTM D7624	>20	14.6	11.8	14.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	24.9	24.2	26

FLUID DEGRADATION

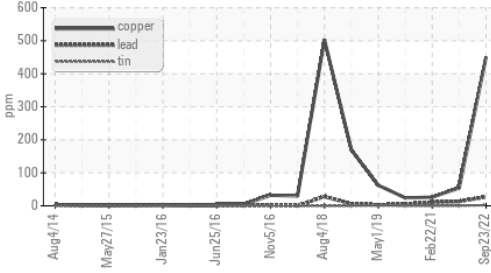
	method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	*ASTM D7414	>25	19.4	19.6	23.7
Base Number (BN)	mg KOH/g	ASTM D2896	9.4	8.6	---	---

OIL ANALYSIS REPORT

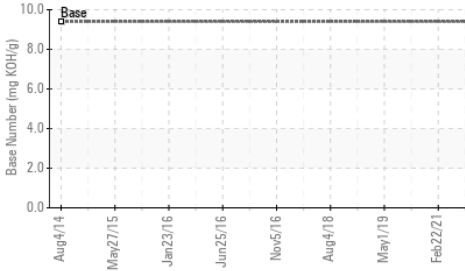
Glycol Contamination



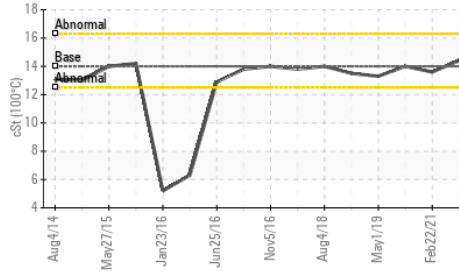
Non-ferrous Metals



Base Number



Viscosity @ 100°C



VISUAL

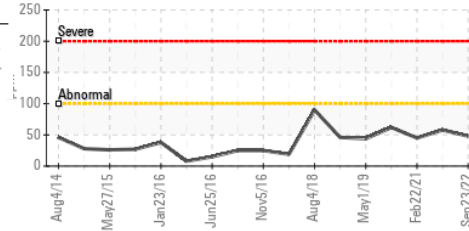
	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar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

FLUID PROPERTIES

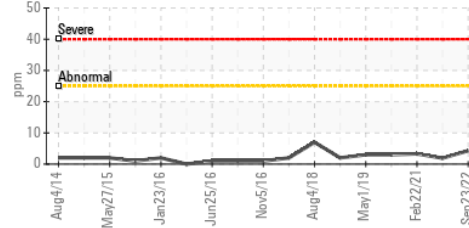
	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14	13.7	14.4

GRAPHS

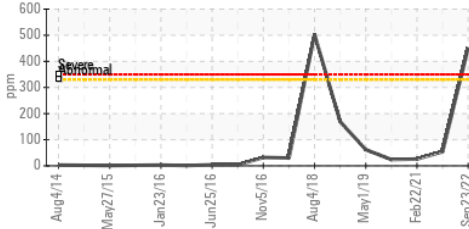
Iron (ppm)



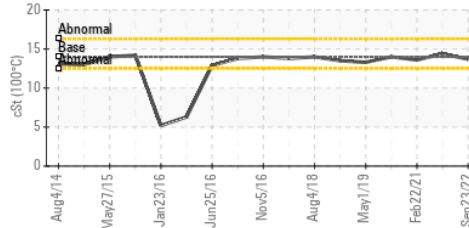
Aluminum (ppm)



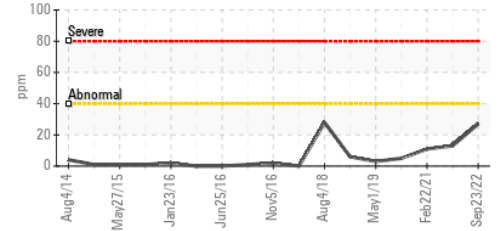
Copper (ppm)



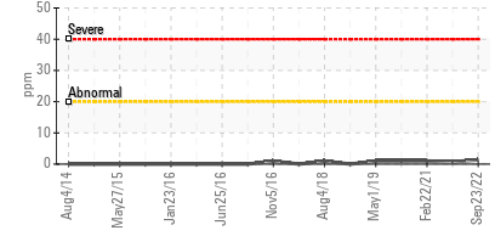
Viscosity @ 100°C



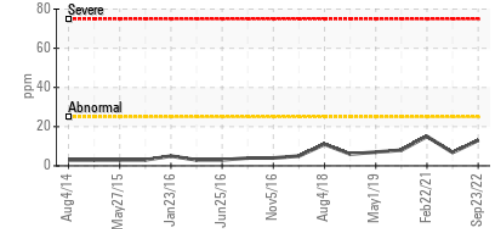
Lead (ppm)



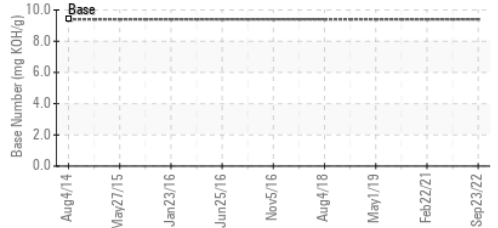
Chromium (ppm)



Silicon (ppm)



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0062704 **Received** : 03 Oct 2022
Lab Number : 05656679 **Diagnosed** : 05 Oct 2022
Unique Number : 10156231 **Diagnostician** : Don Baldrige
Test Package : MOB 1 (Additional Tests: Glycol, TBN)

Kemp Quarries - River Valley - Ft. Smith Trans Load 01
 3801 State Line Road
 Fort Smith, AR
 US 72916
 Contact:

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)

arkomashop@kempquarries.net

T:

F: