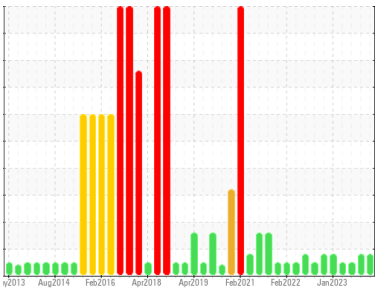
OIL ANALYSIS REPORT

Sample Rating Trend



SOOT

Area
KEMP QUARRIES / RIVER VALLEY BACKBONE
Machine Id
WL079
Component
Diesel Engine
Fluid
MOBIL DELVAC 1300 SUPER15W40 (--- GAL)

DIAGNOSIS

Recommendation

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is an abnormal amount of solids and carbon present in the oil.

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		**PCA0084794**	PCA0085844	PCA0085860
Sample Date		Client Info		**28 Dec 2023**	13 Oct 2023	09 Aug 2023
Machine Age	hrs	Client Info		**48609**	48226	47885
Oil Age	hrs	Client Info		**383**	341	577
Oil Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**ABNORMAL**	ABNORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
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	>100	**44**	44	34
Chromium	ppm	ASTM D5185m	>20	**<1**	<1	<1
Nickel	ppm	ASTM D5185m	>2	**<1**	0	0
Titanium	ppm	ASTM D5185m	>2	**<1**	<1	<1
Silver	ppm	ASTM D5185m	>2	**0**	0	0
Aluminum	ppm	ASTM D5185m	>25	**2**	<1	0
Lead	ppm	ASTM D5185m	>40	**2**	2	2
Copper	ppm	ASTM D5185m	>330	**5**	4	4
Tin	ppm	ASTM D5185m	>15	**1**	<1	<1
Vanadium	ppm	ASTM D5185m		**0**	0	0
Cadmium	ppm	ASTM D5185m		**<1**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	**<1**	0	<1
Barium	ppm	ASTM D5185m	0	**8**	0	0
Molybdenum	ppm	ASTM D5185m	0	**62**	59	63
Manganese	ppm	ASTM D5185m		**<1**	<1	<1
Magnesium	ppm	ASTM D5185m	0	**953**	955	1038
Calcium	ppm	ASTM D5185m		**1104**	1013	1172
Phosphorus	ppm	ASTM D5185m		**930**	1003	1100
Zinc	ppm	ASTM D5185m		**1221**	1239	1370
Sulfur	ppm	ASTM D5185m		**2996**	2962	4047

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**4**	4	3
Sodium	ppm	ASTM D5185m		**0**	2	1
Potassium	ppm	ASTM D5185m	>20	**1**	3	1
Fuel	%	ASTM D3524	>5	**<1.0**	<1.0	<1.0

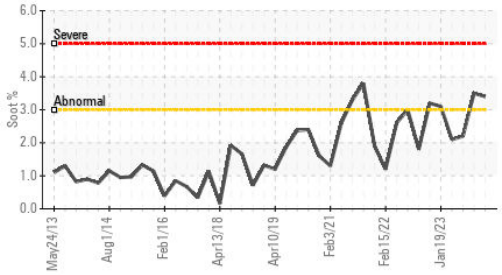
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**3.4**	3.5	2.2
Nitration	Abs/cm	*ASTM D7624	>20	**8.5**	8.5	6.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	**23.1**	23.5	20.0

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**14.2**	13.9	12.7
Base Number (BN)	mg KOH/g	ASTM D2896	9.4	**7.0**	6.2	8.3

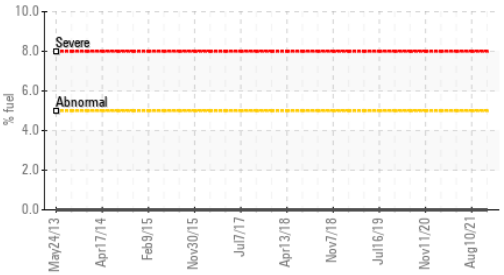
OIL DIAGNOSTICS

OIL ANALYSIS REPORT

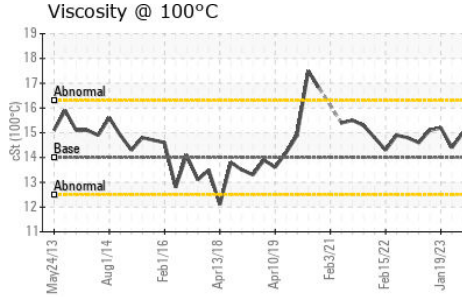
Soot %



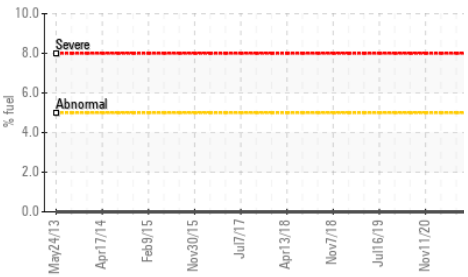
Fuel Dilution



Viscosity @ 100°C



Fuel Dilution

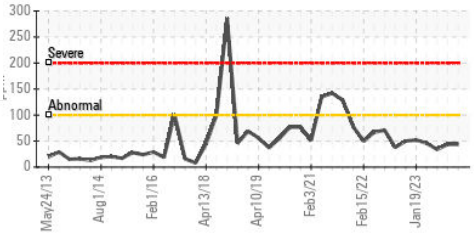


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

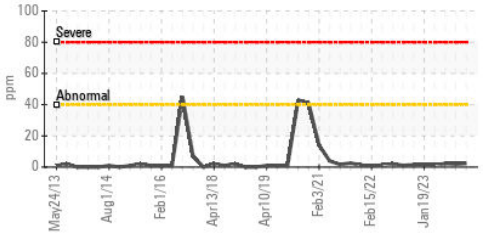
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14	**15.2**	15.5	15.0

GRAPHS

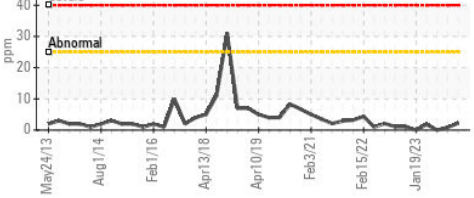
Iron (ppm)



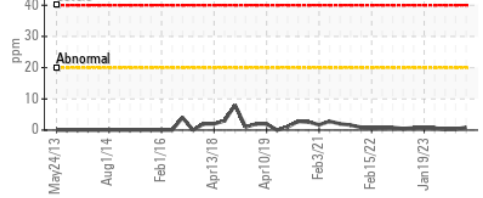
Lead (ppm)



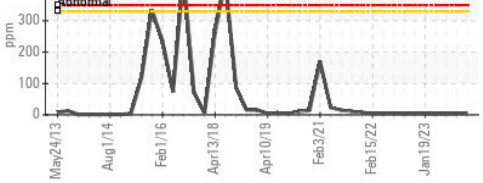
Aluminum (ppm)



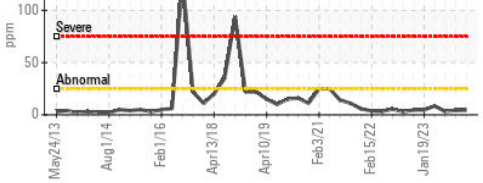
Chromium (ppm)



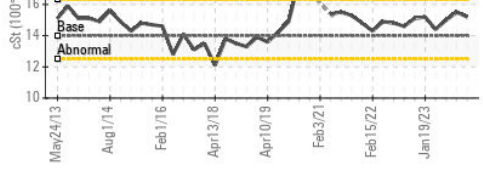
Copper (ppm)



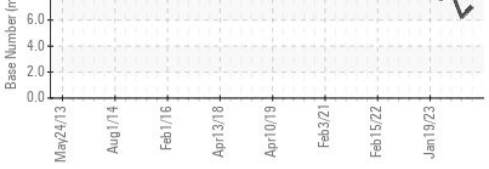
Silicon (ppm)



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0084794 **Recieved** : 08 Jan 2024
Lab Number : 06053383 **Diagnosed** : 09 Jan 2024
Unique Number : 10819332 **Diagnostician** : Sean Felton
Test Package : MOB 1 (Additional Tests: FuelDilution, 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: KEMHUN [WUSCAR] 06053383 (Generated: 01/09/2024 14:51:28) Rev: 1

Submitted By: