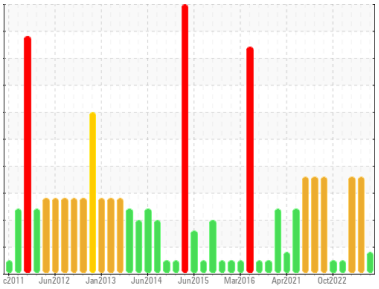
OIL DIAGNOSTICS

OIL ANALYSIS REPORT

Area
KEMP QUARRIES / RIVER VALLEY ARKOMA [65063]
Machine Id
WL049
Component
Diesel Engine
Fluid
MOBIL DELVAC 1300 SUPER15W40 (--- GAL)

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: Sampled only. Engine seized)

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 suitable for further service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**PCA0085830**	PCA0034671	PCA0070346
Sample Date		Client Info		**18 Aug 2023**	04 Aug 2023	23 Mar 2023
Machine Age	hrs	Client Info		**4583**	4581	4603
Oil Age	hrs	Client Info		**212**	500	4603
Oil Changed		Client Info		**Not Changd**	Changed	Changed
Sample Status				**ABNORMAL**	SEVERE	SEVERE

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

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>85	**31**	52	48
Chromium	ppm	ASTM D5185m	>4	**<1**	2	1
Nickel	ppm	ASTM D5185m	>4	**0**	1	1
Titanium	ppm	ASTM D5185m	>2	**<1**	<1	<1
Silver	ppm	ASTM D5185m	>2	**0**	0	0
Aluminum	ppm	ASTM D5185m	>11	**1**	3	2
Lead	ppm	ASTM D5185m	>30	**5**	11	7
Copper	ppm	ASTM D5185m	>135	**8**	17	13
Tin	ppm	ASTM D5185m	>4	**<1**	<1	1
Vanadium	ppm	ASTM D5185m		**<1**	<1	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	**<1**	<1	<1
Barium	ppm	ASTM D5185m	0	**0**	1	2
Molybdenum	ppm	ASTM D5185m	0	**64**	67	68
Manganese	ppm	ASTM D5185m		**<1**	<1	<1
Magnesium	ppm	ASTM D5185m	0	**1014**	981	956
Calcium	ppm	ASTM D5185m		**1106**	1098	1129
Phosphorus	ppm	ASTM D5185m		**1048**	990	1041
Zinc	ppm	ASTM D5185m		**1261**	1228	1252
Sulfur	ppm	ASTM D5185m		**3504**	2939	2907

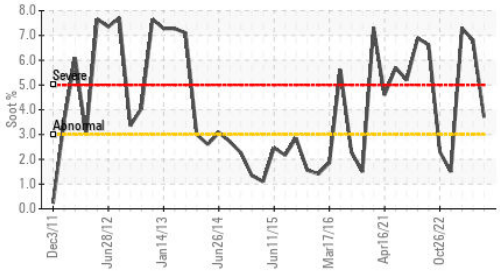
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>20	**4**	5	5
Sodium	ppm	ASTM D5185m		**4**	12	22
Potassium	ppm	ASTM D5185m	>20	**0**	2	4

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	▲ **3.7**	⬢ 6.8	⬢ 7.3
Nitration	Abs/cm	*ASTM D7624	>20	**8.9**	16.7	16.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	**25.3**	35.6	36.8

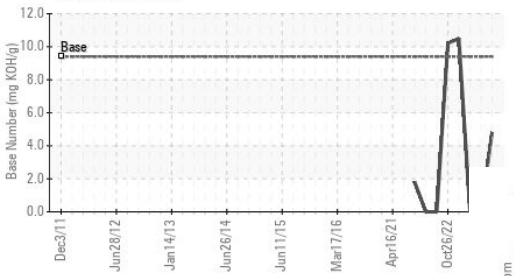
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**13.9**	25.0	25.4
Base Number (BN)	mg KOH/g	ASTM D2896	9.4	**4.8**	▲ 0.0	▲ 0.0

OIL ANALYSIS REPORT

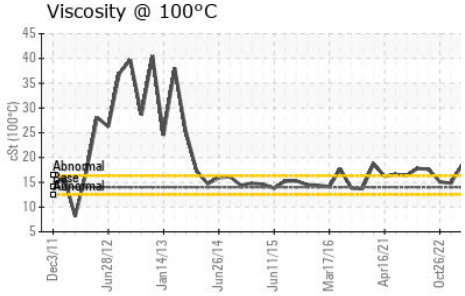
Soot %



Base Number



Viscosity @ 100°C

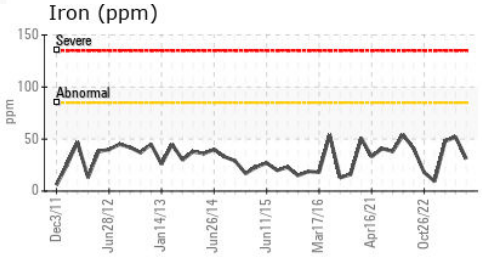


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

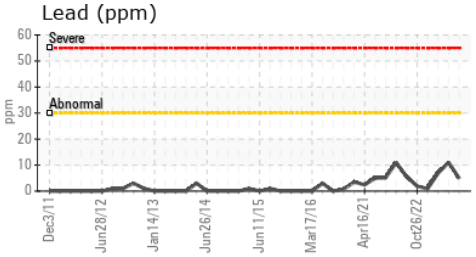
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14	**15.7**	▲ 17.8	▲ 18.4

GRAPHS

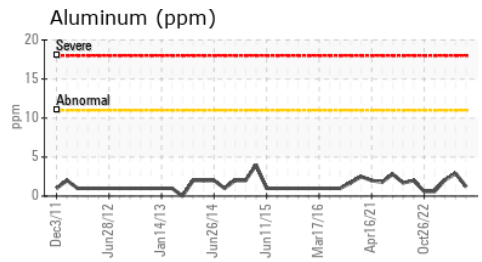
Iron (ppm)



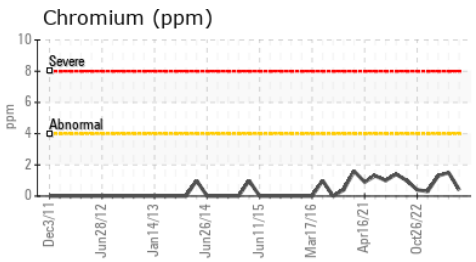
Lead (ppm)



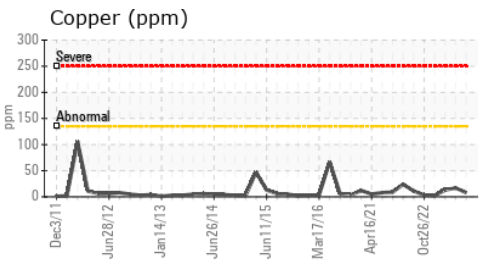
Aluminum (ppm)



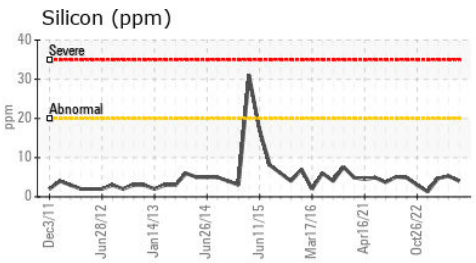
Chromium (ppm)



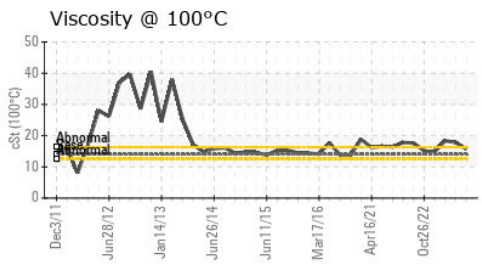
Copper (ppm)



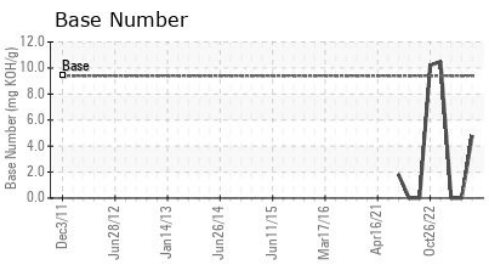
Silicon (ppm)



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0085830 **Received** : 22 Aug 2023
Lab Number : 05931428 **Diagnosed** : 23 Aug 2023
Unique Number : 10616699 **Diagnostician** : Doug Bogart
Test Package : MOB 1 (Additional Tests: 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)

Kemp Quarries - River Valley - Arkoma
12971 HWY 9a
Shawnee, OK
US 74804
Contact:
arkomashop@kempquarries.net
T:
F:

Report Id: KEMSHA [WUSCAR] 05931428 (Generated: 08/23/2023 13:44:22) Rev: 1

Submitted By: