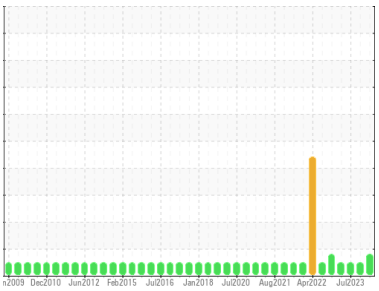
OIL ANALYSIS REPORT

OIL DIAGNOSTICS

Sample Rating Trend



WEAR

Area
KEMP QUARRIES / RIVER VALLEY OZARK
Machine Id
WL033
Component
Diesel Engine
Fluid
MOBIL DELVAC 1300 SUPER15W40 (--- GAL)

DIAGNOSIS

▲ Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

▲ Wear

Cylinder, crank, or cam shaft wear is indicated. All other component wear rates are normal.

Contamination

There is no indication of any contamination 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		**PCA0069709**	PCA0069758	PCA0069687
Sample Date		Client Info		**15 Mar 2024**	10 Oct 2023	31 Jul 2023
Machine Age	hrs	Client Info		**42691**	42265	42005
Oil Age	hrs	Client Info		**40191**	40191	40191
Oil Changed		Client Info		**N/A**	N/A	N/A
Sample Status				**ABNORMAL**	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>5	**<1.0**	<1.0	<1.0
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	▲ **133**	29	29
Chromium	ppm	ASTM D5185m	>20	**1**	<1	<1
Nickel	ppm	ASTM D5185m	>2	**2**	0	<1
Titanium	ppm	ASTM D5185m	>2	**1**	<1	<1
Silver	ppm	ASTM D5185m	>2	**0**	0	0
Aluminum	ppm	ASTM D5185m	>25	**6**	4	<1
Lead	ppm	ASTM D5185m	>40	**4**	1	1
Copper	ppm	ASTM D5185m	>330	**27**	7	6
Tin	ppm	ASTM D5185m	>15	**1**	<1	<1
Vanadium	ppm	ASTM D5185m		**<1**	<1	0
Cadmium	ppm	ASTM D5185m		**<1**	0	<1

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	**12**	0	<1
Barium	ppm	ASTM D5185m	0	**1**	0	0
Molybdenum	ppm	ASTM D5185m	0	**68**	60	62
Manganese	ppm	ASTM D5185m		**1**	<1	<1
Magnesium	ppm	ASTM D5185m	0	**934**	970	1030
Calcium	ppm	ASTM D5185m		**1198**	1130	1178
Phosphorus	ppm	ASTM D5185m		**1130**	1058	1094
Zinc	ppm	ASTM D5185m		**1278**	1307	1368
Sulfur	ppm	ASTM D5185m		**3268**	3106	3966

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**21**	7	6
Sodium	ppm	ASTM D5185m		**8**	3	4
Potassium	ppm	ASTM D5185m	>20	**6**	3	1

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**1.7**	1.2	1.1
Nitration	Abs/cm	*ASTM D7624	>20	**10.9**	8.4	8.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	**23.4**	20.6	20.3

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**20.2**	15.9	15.7
Base Number (BN)	mg KOH/g	ASTM D2896	9.4	**7.6**	8.2	8.3

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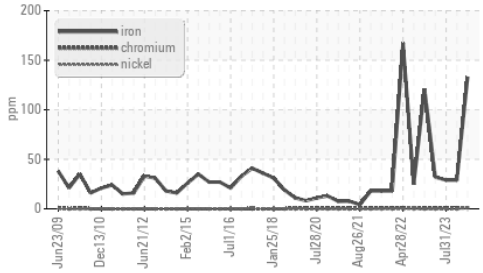
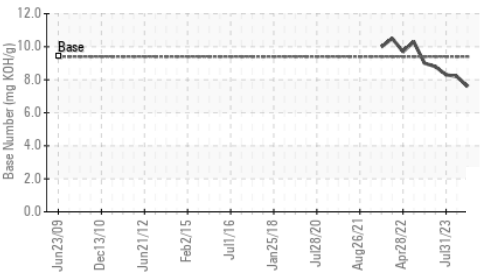
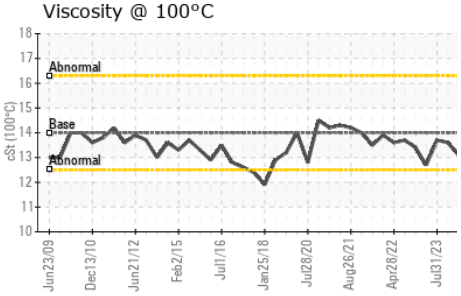
Ferrous Alloys



Base Number



Viscosity @ 100°C

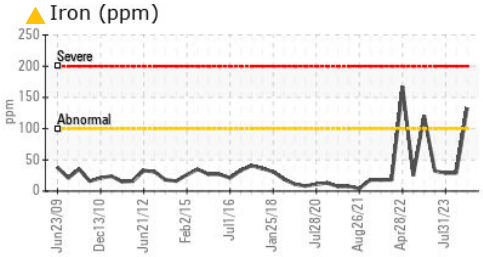


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

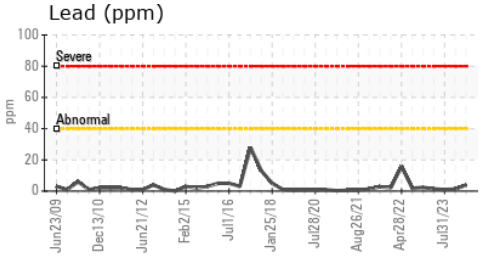
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14	**13.1**	13.6	13.7

GRAPHS

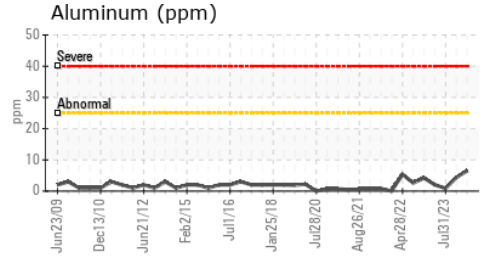
Iron (ppm)



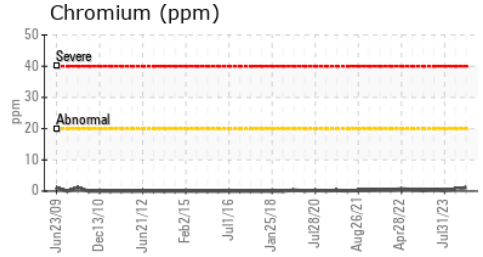
Lead (ppm)



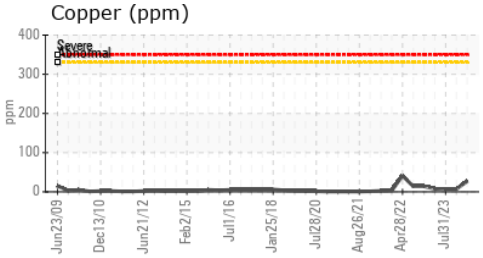
Aluminum (ppm)



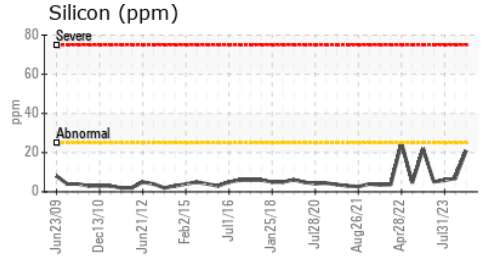
Chromium (ppm)



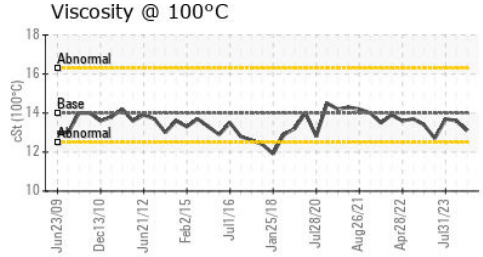
Copper (ppm)



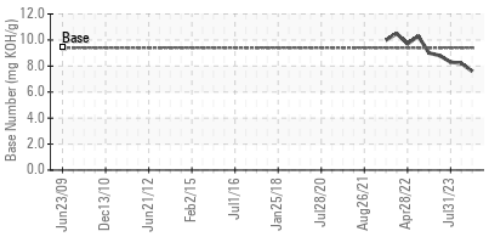
Silicon (ppm)



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0069709
Lab Number : 06128572
Unique Number : 10942723
Test Package : MOB 1 (Additional Tests: TBN)

Received : 25 Mar 2024
Tested : 27 Mar 2024
Diagnosed : 28 Mar 2024 - Don Baldridge

Kemp Quarries - River Valley - Ozark
9446 N Hwy 309
Ozark, AR
US 72949
Contact: OZARK NOTIFICATIONS
ozark@rivervalleyquarries.com
T:
F:

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)