

Area
KEMP QUARRIES / HULBERT
Machine Id
WL118
Component
Diesel Engine
Fluid
MOBIL DELVAC 1300 SUPER15W40 (--- GAL)

RECOMMENDATION

Check for low coolant level. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		PCA0085954	PCA0084866	PCA0037145
Sample Date		Client Info		10 May 2024	26 Sep 2023	01 Dec 2022
Machine Age	hrs	Client Info		5490	5358	5054
Oil Age	hrs	Client Info		132	304	413
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	ABNORMAL	NORMAL

WEAR

Cylinder, crank, or cam shaft wear is indicated.

Iron	ppm	ASTM D5185m	>100	▲ 117	▲ 159	42
Chromium	ppm	ASTM D5185m	>20	3	5	2
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m	>3	<1	0	0
Aluminum	ppm	ASTM D5185m	>20	18	● 21	10
Lead	ppm	ASTM D5185m	>40	5	<1	0
Copper	ppm	ASTM D5185m	>330	16	3	1
Tin	ppm	ASTM D5185m	>15	<1	<1	0
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

Sodium and/or potassium levels are high.

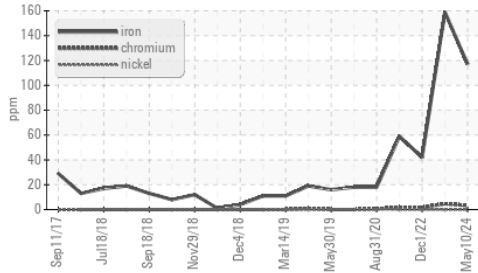
Silicon	ppm	ASTM D5185m	>25	20	▲ 35	17
Potassium	ppm	ASTM D5185m	>20	4	2	0
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol	%	*ASTM D2982		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.2	0.1	0.3
Nitration	Abs/cm	*ASTM D7624	>20	8.0	6.3	8.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	19.9	18.7	21.9
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

FLUID CONDITION

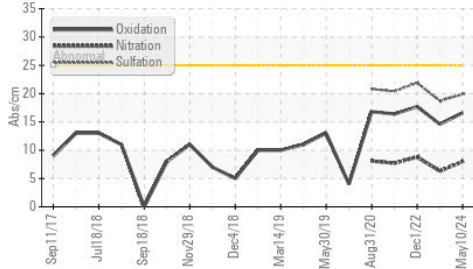
The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185m		● 89	2	<1
Boron	ppm	ASTM D5185m	0	0	0	0
Barium	ppm	ASTM D5185m	0	0	0	1
Molybdenum	ppm	ASTM D5185m	0	80	80	77
Manganese	ppm	ASTM D5185m		2	1	<1
Magnesium	ppm	ASTM D5185m	0	1280	1213	1146
Calcium	ppm	ASTM D5185m		1467	1381	1367
Phosphorus	ppm	ASTM D5185m		1268	1179	1100
Zinc	ppm	ASTM D5185m		1641	1405	1398
Sulfur	ppm	ASTM D5185m		4234	3561	3570
Oxidation	Abs/.1mm	*ASTM D7414	>25	16.6	14.6	17.7
Base Number (BN)	mg KOH/g	ASTM D2896	9.4	10.3	10.2	11.9
Visc @ 100°C	cSt	ASTM D445	14	15.2	15.5	15.5

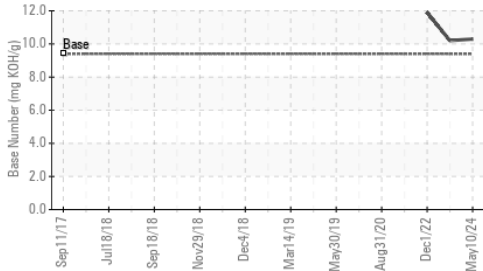
▲ Ferrous Alloys



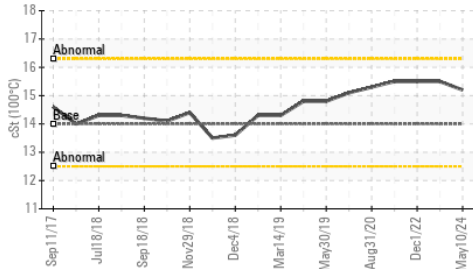
FT-IR (Direct Trend)



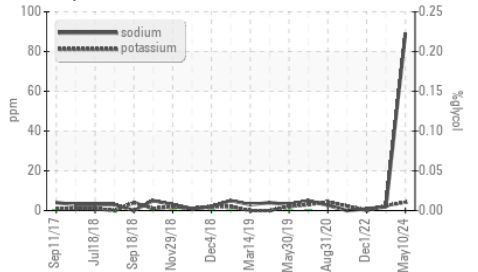
Base Number



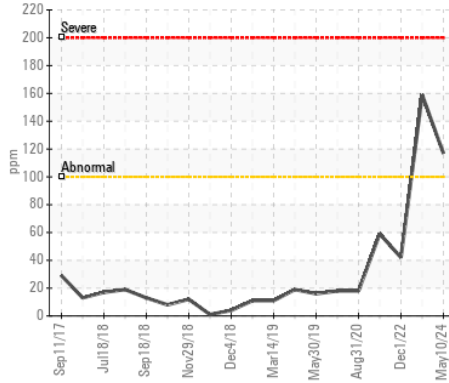
Viscosity @ 100°C



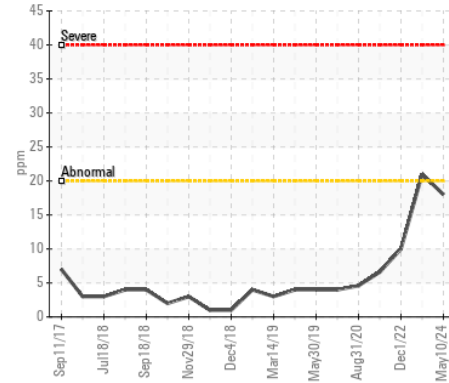
Glycol Contamination



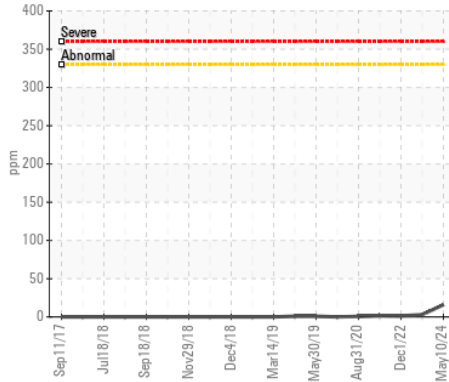
▲ Iron (ppm)



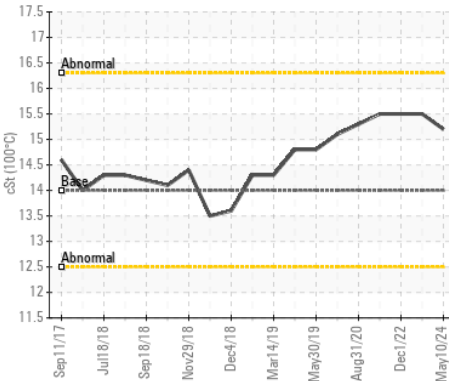
Aluminum (ppm)



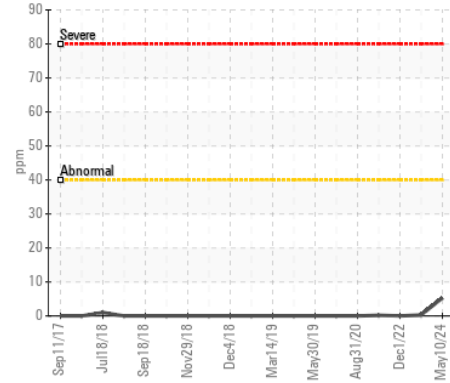
Copper (ppm)



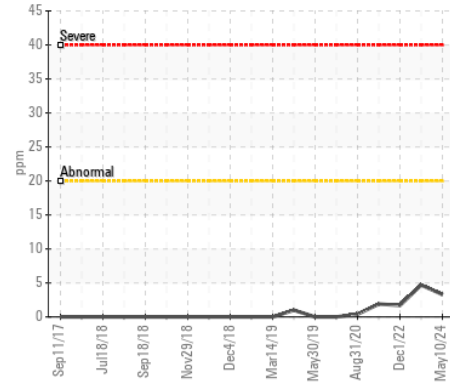
Viscosity @ 100°C



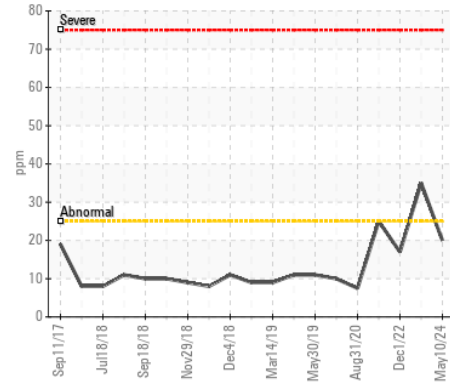
Lead (ppm)



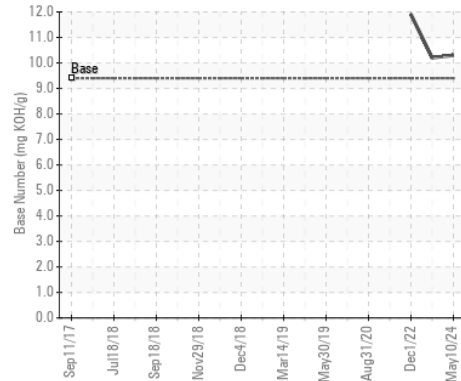
Chromium (ppm)



Silicon (ppm)



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0085954 **Received** : 28 May 2024
Lab Number : 06193291 **Tested** : 30 May 2024
Unique Number : 11050043 **Diagnosed** : 30 May 2024 - Sean Felton
Test Package : MOB 1 (Additional Tests: Glycol, TBN)

Kemp Quarries - Kemp Stone - Hulbert
 17801 Hwy 80
 Hulbert, OK
 US 74441
 Contact:
 hulbert@kempstone.com

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)