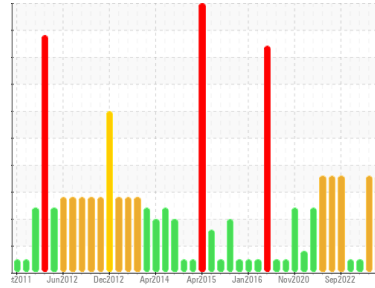


# OIL ANALYSIS REPORT



Area  
**KEMP QUARRIES / RIVER VALLEY ARKOMA**  
Machine Id  
**WLO49**  
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. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition. NOTE: High solids (carbon/soot) in the sample have limited the accuracy of Infra-Red data including Total Base Number (TBN) value.

### Wear

All component wear rates are normal.

### Contamination

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

### Fluid Condition

The oil viscosity is higher than normal. The BN level is low. The oil is no longer serviceable due to the presence of contaminants.

## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>PCA0034671</b>	PCA0070346	PCA0070378
Sample Date	Client Info		<b>04 Aug 2023</b>	23 Mar 2023	02 Dec 2022
Machine Age	hrs	Client Info	<b>4581</b>	4603	1753
Oil Age	hrs	Client Info	<b>500</b>	4603	1753
Oil Changed	Client Info		<b>Changed</b>	Changed	Changed
Sample Status			<b>SEVERE</b>	SEVERE	NORMAL

## CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>5	<b>&lt;1.0</b>	<1.0	<1.0
Glycol	WC Method		<b>NEG</b>	NEG	NEG

## WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >85	<b>52</b>	48	9
Chromium	ppm	ASTM D5185m >4	<b>2</b>	1	<1
Nickel	ppm	ASTM D5185m >4	<b>1</b>	1	0
Titanium	ppm	ASTM D5185m >2	<b>&lt;1</b>	<1	<1
Silver	ppm	ASTM D5185m >2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m >11	<b>3</b>	2	<1
Lead	ppm	ASTM D5185m >30	<b>11</b>	7	<1
Copper	ppm	ASTM D5185m >135	<b>17</b>	13	2
Tin	ppm	ASTM D5185m >4	<b>&lt;1</b>	1	0
Vanadium	ppm	ASTM D5185m	<b>&lt;1</b>	0	0
Cadmium	ppm	ASTM D5185m	<b>0</b>	0	0

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	<b>&lt;1</b>	<1	0
Barium	ppm	ASTM D5185m 0	<b>1</b>	2	1
Molybdenum	ppm	ASTM D5185m 0	<b>67</b>	68	64
Manganese	ppm	ASTM D5185m	<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m 0	<b>981</b>	956	927
Calcium	ppm	ASTM D5185m	<b>1098</b>	1129	1094
Phosphorus	ppm	ASTM D5185m	<b>990</b>	1041	1002
Zinc	ppm	ASTM D5185m	<b>1228</b>	1252	1253
Sulfur	ppm	ASTM D5185m	<b>2939</b>	2907	3579

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >20	<b>5</b>	5	1
Sodium	ppm	ASTM D5185m	<b>12</b>	22	2
Potassium	ppm	ASTM D5185m >20	<b>2</b>	4	0

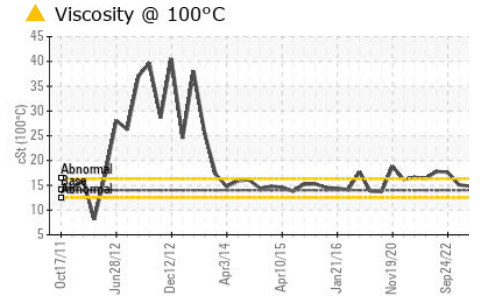
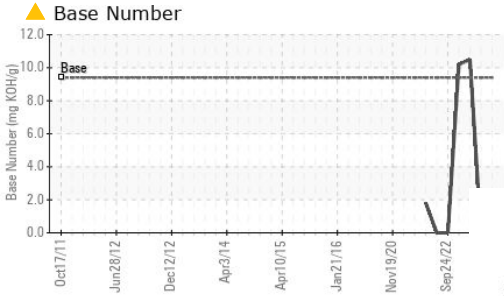
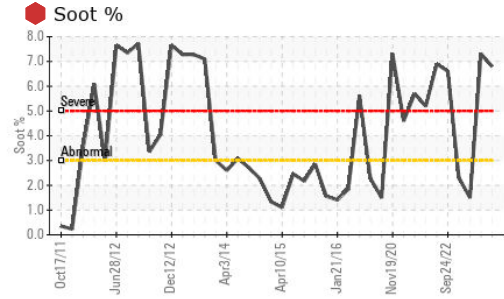
## INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	<b>6.8</b>	7.3	1.5
Nitration	Abs/cm	*ASTM D7624 >20	<b>16.7</b>	16.9	6.7
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>35.6</b>	36.8	21.1

## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>25.0</b>	25.4	14.1
Base Number (BN)	mg KOH/g	ASTM D2896 9.4	<b>0.0</b>	0.0	10.5

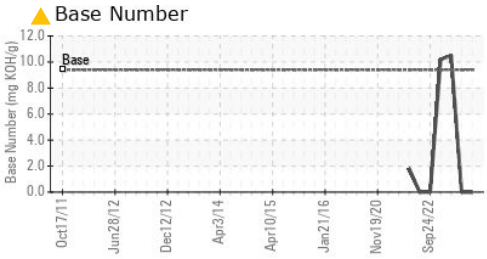
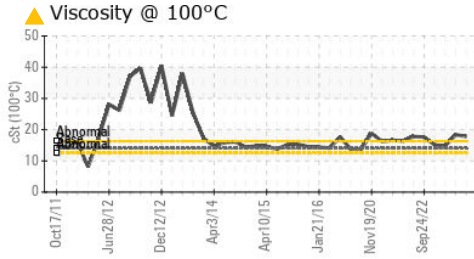
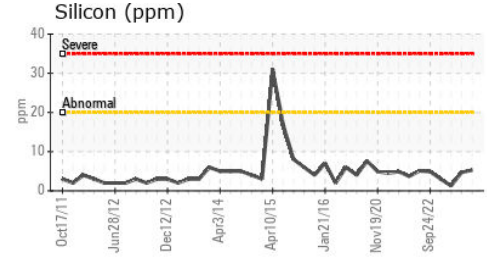
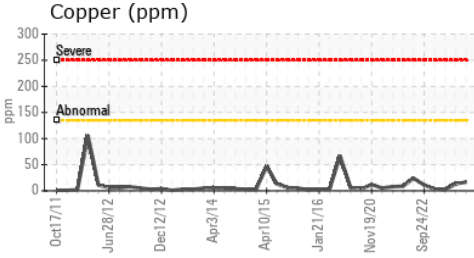
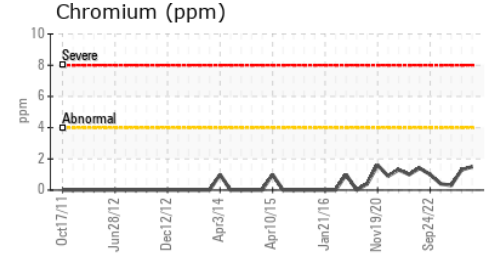
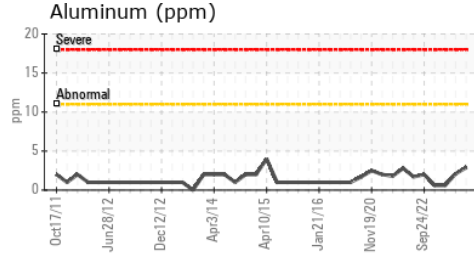
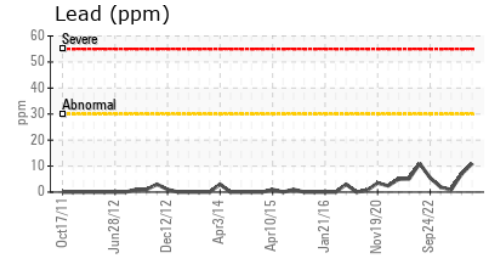
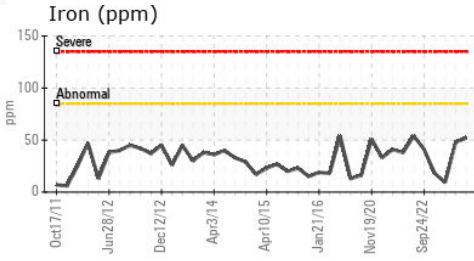
# OIL ANALYSIS REPORT



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	▲ 17.8	▲ 18.4	14.8

## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : PCA0034671 **Received** : 09 Aug 2023  
**Lab Number** : 05920147 **Diagnosed** : 10 Aug 2023  
**Unique Number** : 10592061 **Diagnostician** : Don Baldrige  
**Test Package** : MOB 1 ( Additional Tests: TBN )

**Kemp Quarries - River Valley - Arkoma**  
 12971 HWY 9a  
 Shawnee, OK  
 US 74804  
 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: