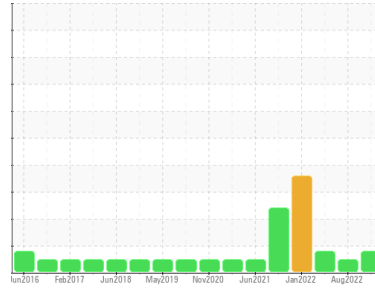


# OIL ANALYSIS REPORT



Area  
**KEMP QUARRIES / RIVER VALLEY BACKBONE**  
Machine Id  
**TTH026**  
Component  
**Diesel Engine**  
Fluid  
**MOBIL DELVAC 1300 SUPER15W40 (--- GAL)**

Sample Rating Trend



## DIAGNOSIS

**Recommendation**  
Oil and filter change at the time of sampling has been noted. 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	<b>PCA0084782</b>	PCA0070126	PCA0034557
Sample Date	Client Info	<b>10 Nov 2023</b>	01 Aug 2022	13 May 2022
Machine Age	hrs	<b>23421</b>	21864	667
Oil Age	hrs	<b>300</b>	439	262
Oil Changed	Client Info	<b>Changed</b>	Changed	Changed
Sample Status		<b>ABNORMAL</b>	NORMAL	ABNORMAL

## CONTAMINATION

method	limit/base	current	history1	history2
Fuel	WC Method >5	<b>&lt;1.0</b>	<1.0	<1.0
Water	WC Method >0.2	<b>NEG</b>	NEG	NEG
Glycol	WC Method	<b>NEG</b>	NEG	NEG

## WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185m >100	<b>▲ 103</b>	73	52
Chromium	ppm ASTM D5185m >20	<b>2</b>	3	3
Nickel	ppm ASTM D5185m >4	<b>0</b>	0	0
Titanium	ppm ASTM D5185m	<b>&lt;1</b>	<1	<1
Silver	ppm ASTM D5185m >3	<b>0</b>	<1	<1
Aluminum	ppm ASTM D5185m >20	<b>5</b>	4	10
Lead	ppm ASTM D5185m >40	<b>4</b>	31	5
Copper	ppm ASTM D5185m >330	<b>12</b>	5	3
Tin	ppm ASTM D5185m >15	<b>2</b>	2	1
Antimony	ppm ASTM D5185m	<b>---</b>	---	---
Vanadium	ppm ASTM D5185m	<b>0</b>	0	0
Cadmium	ppm ASTM D5185m	<b>0</b>	<1	0

## ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	<b>2</b>	5	4
Barium	ppm ASTM D5185m 0	<b>0</b>	1	0
Molybdenum	ppm ASTM D5185m 0	<b>55</b>	59	51
Manganese	ppm ASTM D5185m	<b>1</b>	<1	<1
Magnesium	ppm ASTM D5185m 0	<b>920</b>	863	915
Calcium	ppm ASTM D5185m	<b>1071</b>	1039	1049
Phosphorus	ppm ASTM D5185m	<b>938</b>	942	954
Zinc	ppm ASTM D5185m	<b>1194</b>	1182	1162
Sulfur	ppm ASTM D5185m	<b>2737</b>	2597	2608

## CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	<b>13</b>	7	8
Sodium	ppm ASTM D5185m	<b>2</b>	0	<1
Potassium	ppm ASTM D5185m >20	<b>0</b>	1	<1

## INFRA-RED

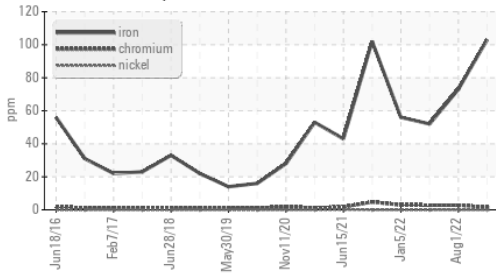
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >3	<b>0.9</b>	2.8	<b>▲ 3.8</b>
Nitration	Abs/cm *ASTM D7624 >20	<b>7.2</b>	11.3	10.2
Sulfation	Abs/.1mm *ASTM D7415 >30	<b>19.6</b>	26.9	26.7

## FLUID DEGRADATION

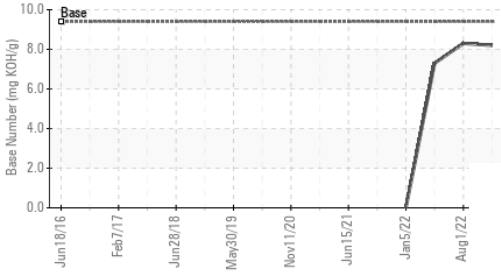
method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	<b>14.5</b>	18.9	15.4
Base Number (BN)	mg KOH/g ASTM D2896 9.4	<b>8.2</b>	8.3	7.3

# OIL ANALYSIS REPORT

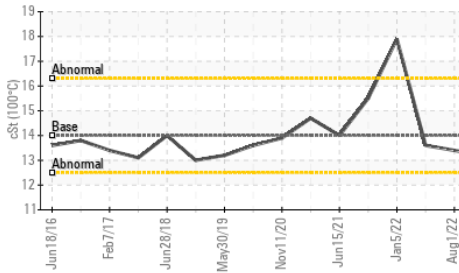
### ▲ Ferrous Alloys



### Base Number



### Viscosity @ 100°C

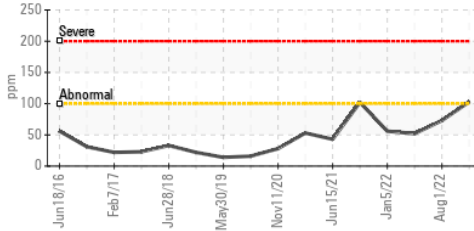


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

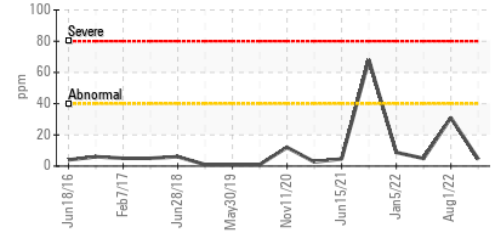
FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 100°C	cSt	ASTM D445	14	13.2	13.4	13.6

### GRAPHS

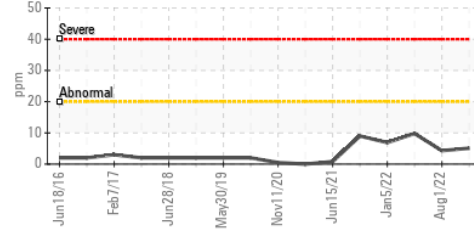
#### ▲ Iron (ppm)



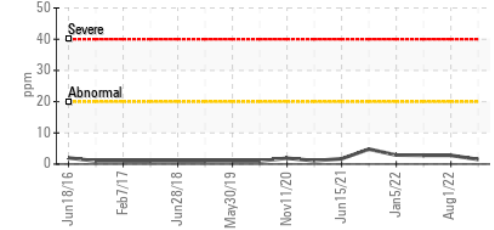
#### Lead (ppm)



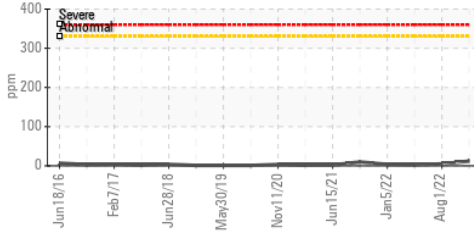
#### Aluminum (ppm)



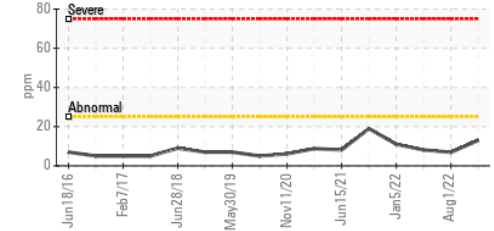
#### Chromium (ppm)



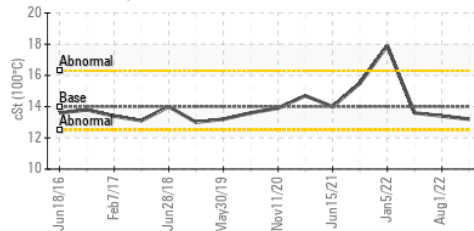
#### Copper (ppm)



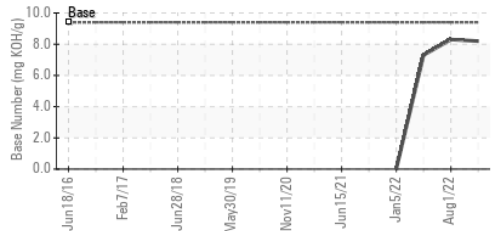
#### Silicon (ppm)



#### Viscosity @ 100°C



#### Base Number



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : PCA0084782 **Received** : 21 Nov 2023  
**Lab Number** : 06014421 **Diagnosed** : 24 Nov 2023  
**Unique Number** : 10753565 **Diagnostician** : Don Baldrige  
**Test Package** : MOB 1 ( Additional Tests: TBN )

**Kemp Quarries - River Valley - Backbone**  
 5600 S Hwy 253  
 Huntington, AR  
 US 72940  
 Contact:  
 backbone@rivervalleyquarries.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)

T:  
F: