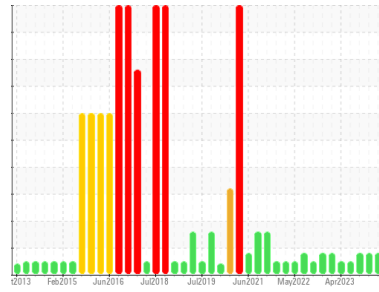


# OIL ANALYSIS REPORT

Area  
**KEMP QUARRIES / RIVER VALLEY BACKBONE**  
 Machine Id  
**WL079**  
 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. Resample at the next service interval to monitor.

### 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 acceptable for the time in service.

## SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	<b>PCA0108632</b>	PCA0084794	PCA0085844
Sample Date	Client Info	<b>28 Jun 2024</b>	28 Dec 2023	13 Oct 2023
Machine Age	hrs Client Info	<b>49459</b>	48609	48226
Oil Age	hrs Client Info	<b>300</b>	383	341
Oil Changed	Client Info	<b>Changed</b>	Changed	Changed
Sample Status		<b>ABNORMAL</b>	ABNORMAL	ABNORMAL

## CONTAMINATION

method	limit/base	current	history1	history2
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>30</b>	44	44
Chromium	ppm ASTM D5185m >20	<b>&lt;1</b>	<1	<1
Nickel	ppm ASTM D5185m >2	<b>0</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 >25	<b>2</b>	2	<1
Lead	ppm ASTM D5185m >40	<b>2</b>	2	2
Copper	ppm ASTM D5185m >330	<b>3</b>	5	4
Tin	ppm ASTM D5185m >15	<b>0</b>	1	<1
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>&lt;1</b>	<1	0
Barium	ppm ASTM D5185m 0	<b>0</b>	8	0
Molybdenum	ppm ASTM D5185m 0	<b>60</b>	62	59
Manganese	ppm ASTM D5185m	<b>&lt;1</b>	<1	<1
Magnesium	ppm ASTM D5185m 0	<b>1021</b>	953	955
Calcium	ppm ASTM D5185m	<b>1218</b>	1104	1013
Phosphorus	ppm ASTM D5185m	<b>1101</b>	930	1003
Zinc	ppm ASTM D5185m	<b>1337</b>	1221	1239
Sulfur	ppm ASTM D5185m	<b>3727</b>	2996	2962

## CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	<b>4</b>	4	4
Sodium	ppm ASTM D5185m	<b>1</b>	0	2
Potassium	ppm ASTM D5185m >20	<b>&lt;1</b>	1	3
Fuel	% ASTM D3524 >5	<b>&lt;1.0</b>	<1.0	<1.0

## INFRA-RED

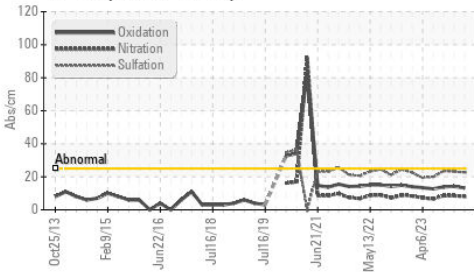
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >3	<b>▲ 3.4</b>	▲ 3.4	▲ 3.5
Nitration	Abs/cm *ASTM D7624 >20	<b>8.0</b>	8.5	8.5
Sulfation	Abs/.1mm *ASTM D7415 >30	<b>22.7</b>	23.1	23.5

## FLUID DEGRADATION

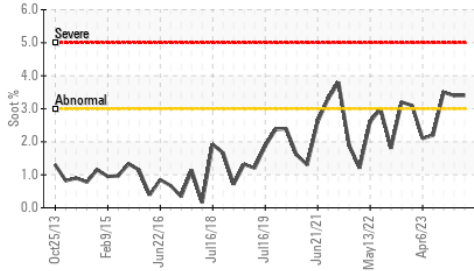
method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	<b>13.2</b>	14.2	13.9
Base Number (BN)	mg KOH/g ASTM D2896 9.4	<b>7.3</b>	7.0	6.2

# OIL ANALYSIS REPORT

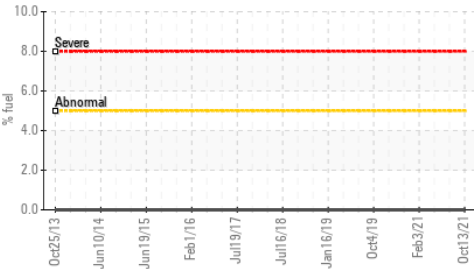
## ▲ FT-IR (Direct Trend)



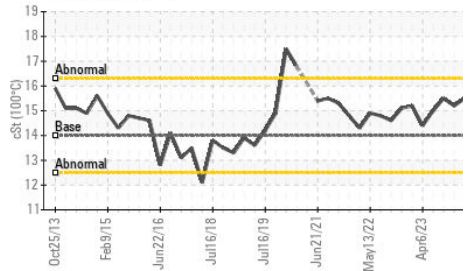
## ▲ Soot %



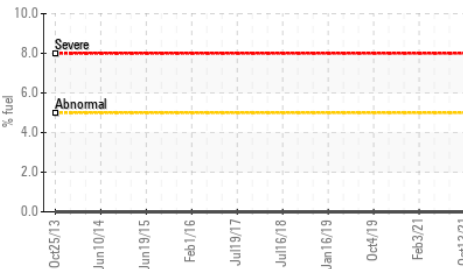
## Fuel Dilution



## Viscosity @ 100°C



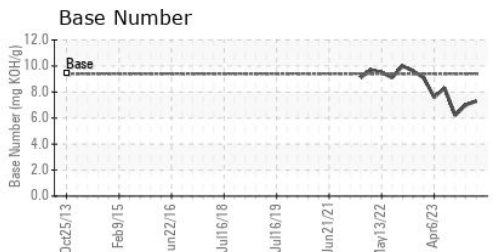
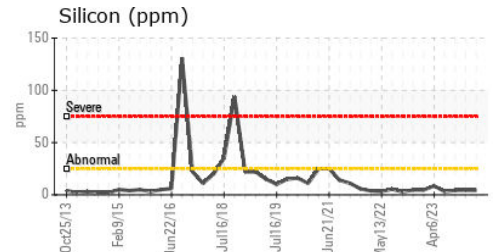
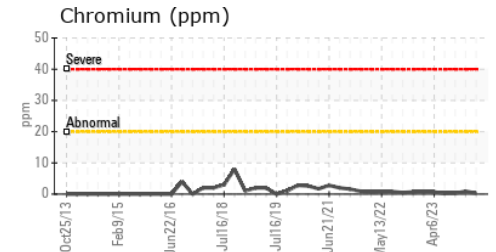
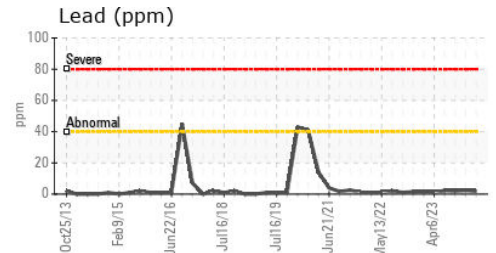
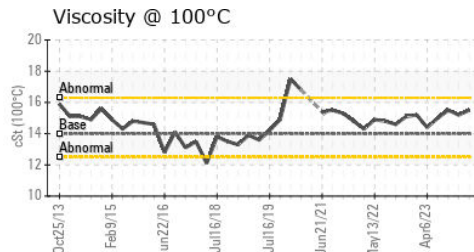
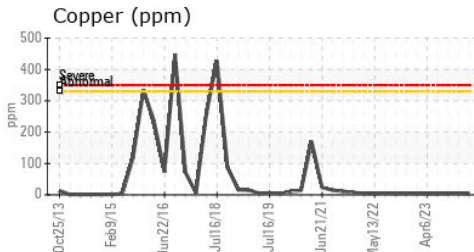
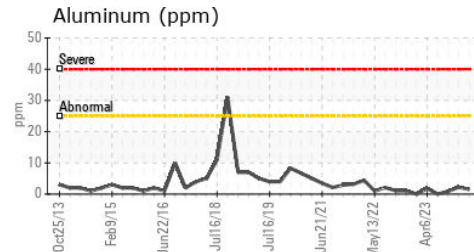
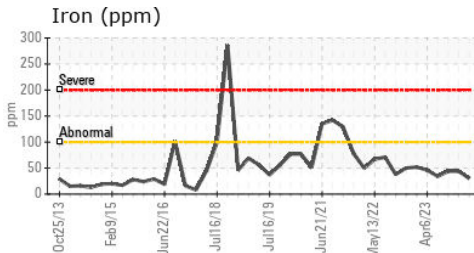
## Fuel Dilution



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	15.5	15.2	15.5

## GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513

**Sample No.** : PCA0108632

**Lab Number** : 06231032

**Unique Number** : 11114525

**Test Package** : MOB 1 ( Additional Tests: FuelDilution, 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)

**Received** : 08 Jul 2024

**Tested** : 10 Jul 2024

**Diagnosed** : 10 Jul 2024 - Sean Felton

**Kemp Quarries - River Valley - Backbone**

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Huntington, AR

US 72940

Contact:

backbone@rivervalleyquarries.com

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