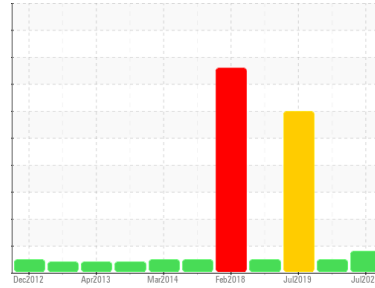


Area  
**KEMP QUARRIES / BCS - STILLWELL**  
 Machine Id  
**TTH018**  
 Component  
**Diesel Engine**  
 Fluid  
**MOBIL DELVAC 1300 SUPER15W40 (--- GAL)**



**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. ( Customer Sample Comment: PM-1 changed filters and fluid )

**Wear**  
 The lead level is abnormal.

**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	history 1	history 2
Sample Number	Client Info	<b>PCA0086389</b>	PCA0025468	PCA14234030
Sample Date	Client Info	<b>05 Jul 2023</b>	28 Jan 2022	24 Jul 2019
Machine Age	hrs	<b>832</b>	242	5288
Oil Age	hrs	<b>832</b>	242	314
Oil Changed	Client Info	<b>Changed</b>	Changed	N/A
Sample Status		<b>ABNORMAL</b>	NORMAL	SEVERE

**CONTAMINATION**

method	limit/base	current	history 1	history 2
Fuel	WC Method >3.0	<b>&lt;1.0</b>	<1.0	---
Glycol	WC Method	<b>NEG</b>	NEG	0.0

**WEAR METALS**

method	limit/base	current	history 1	history 2
Iron	ppm ASTM D5185m >90	<b>56</b>	25	172
Chromium	ppm ASTM D5185m >20	<b>1</b>	<1	1
Nickel	ppm ASTM D5185m >2	<b>1</b>	0	0
Titanium	ppm ASTM D5185m >2	<b>0</b>	<1	0
Silver	ppm ASTM D5185m >2	<b>0</b>	0	0
Aluminum	ppm ASTM D5185m >20	<b>4</b>	1	3
Lead	ppm ASTM D5185m >40	<b>44</b>	5	4
Copper	ppm ASTM D5185m >330	<b>31</b>	3	3
Tin	ppm ASTM D5185m >15	<b>6</b>	1	2
Antimony	ppm ASTM D5185m	<b>---</b>	0	---
Vanadium	ppm ASTM D5185m	<b>0</b>	0	0
Cadmium	ppm ASTM D5185m	<b>0</b>	0	0

**ADDITIVES**

method	limit/base	current	history 1	history 2
Boron	ppm ASTM D5185m 0	<b>2</b>	8	38
Barium	ppm ASTM D5185m 0	<b>0</b>	0	0
Molybdenum	ppm ASTM D5185m 0	<b>64</b>	63	37
Manganese	ppm ASTM D5185m	<b>1</b>	<1	0
Magnesium	ppm ASTM D5185m 0	<b>1034</b>	985	474
Calcium	ppm ASTM D5185m	<b>1154</b>	1195	1635
Phosphorus	ppm ASTM D5185m	<b>1063</b>	1036	701
Zinc	ppm ASTM D5185m	<b>1370</b>	1285	852
Sulfur	ppm ASTM D5185m	<b>3428</b>	2663	---

**CONTAMINANTS**

method	limit/base	current	history 1	history 2
Silicon	ppm ASTM D5185m >25	<b>6</b>	4	9
Sodium	ppm ASTM D5185m	<b>3</b>	3	4
Potassium	ppm ASTM D5185m >20	<b>&lt;1</b>	0	1

**INFRA-RED**

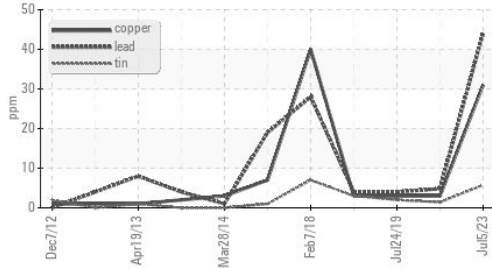
method	limit/base	current	history 1	history 2
Soot %	% *ASTM D7844 >6	<b>1.1</b>	0.3	1.72
Nitration	Abs/cm *ASTM D7624 >20	<b>8.8</b>	7.2	---
Sulfation	Abs/.1mm *ASTM D7415 >30	<b>21.9</b>	20.5	---

**FLUID DEGRADATION**

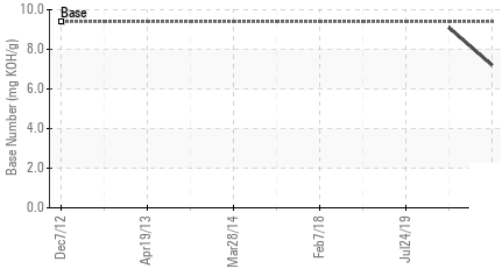
method	limit/base	current	history 1	history 2
Oxidation	Abs/.1mm *ASTM D7414 >25	<b>17.9</b>	16.0	4
Base Number (BN)	mg KOH/g ASTM D2896 9.4	<b>7.2</b>	9.1	---

# OIL ANALYSIS REPORT

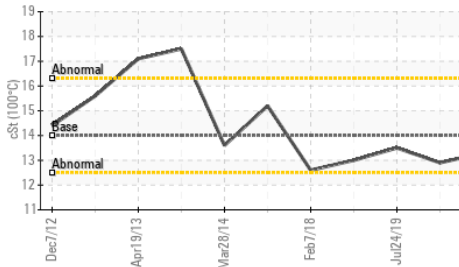
### ▲ Non-ferrous Metals



### Base Number



### Viscosity @ 100°C

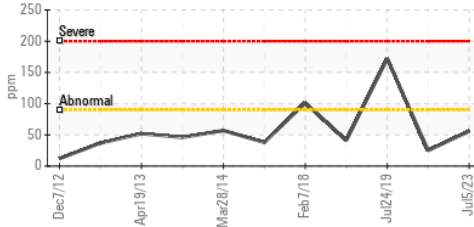


VISUAL	method	limit/base	current	history 1	history 2
White Metal	scalar	*Visual	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	---
Precipitate	scalar	*Visual	NONE	NONE	---
Silt	scalar	*Visual	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---
Appearance	scalar	*Visual	NORML	NORML	---
Odor	scalar	*Visual	NORML	NORML	---
Emulsified Water	scalar	*Visual	>0.2	NEG	---
Free Water	scalar	*Visual		NEG	---

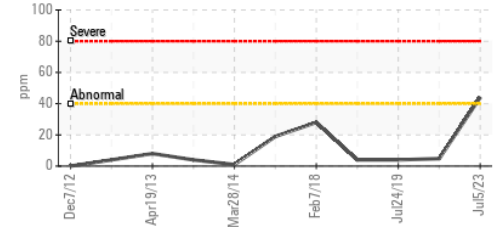
FLUID PROPERTIES	method	limit/base	current	history 1	history 2
Visc @ 100°C	cSt	ASTM D445 14	<b>13.3</b>	12.9	13.5

### GRAPHS

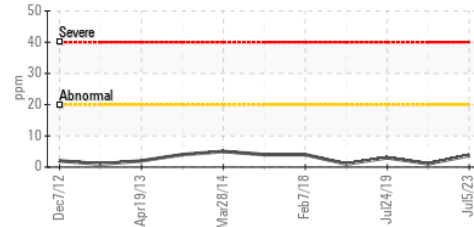
#### Iron (ppm)



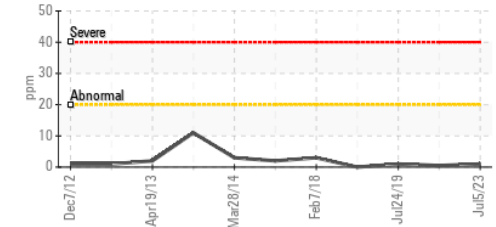
#### ▲ Lead (ppm)



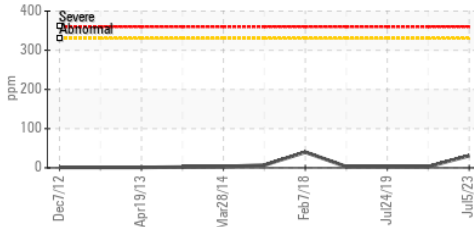
#### Aluminum (ppm)



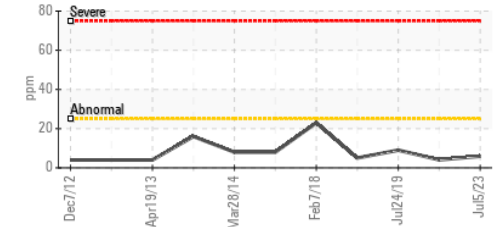
#### Chromium (ppm)



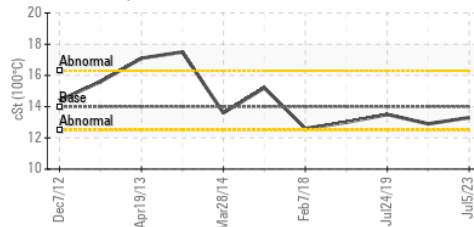
#### Copper (ppm)



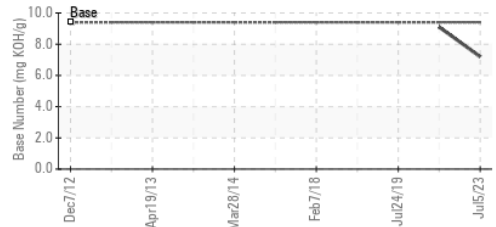
#### Silicon (ppm)



#### Viscosity @ 100°C



#### Base Number



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : PCA0086389 **Received** : 10 Jul 2023  
**Lab Number** : 05894259 **Diagnosed** : 12 Jul 2023  
**Unique Number** : 10550069 **Diagnostician** : Don Baldrige  
**Test Package** : MOB 1 ( Additional Tests: TBN )

**Kemp Quarries - Benton County Stone - Stillwell**  
 463917 Highway 100  
 Bunch, OK  
 US 74931  
 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)

stilwell@bentoncountystone.com

T:

F: