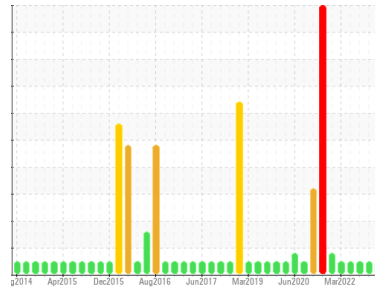


# OIL ANALYSIS REPORT



Area  
**KEMP QUARRIES / RVM-BUTTERFIELD [66114]**  
Machine Id  
**WL081**  
Component  
**Diesel Engine**  
Fluid  
**PETRO CANADA DURON SHP 15W40 (--- GAL)**

Sample Rating Trend



**NORMAL**



## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor. ( Customer Sample Comment: PM-4 changed fluid and filters )

### Wear

All 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>PCA0087071</b>	PCA0085780	PCA0062076
Sample Date	Client Info		<b>08 Nov 2023</b>	01 Jun 2023	01 Dec 2022
Machine Age	hrs	Client Info	<b>42315</b>	41808	41316
Oil Age	hrs	Client Info	<b>42315</b>	41808	41316
Oil Changed		Client Info	<b>Changed</b>	Changed	Changed
Sample Status			<b>NORMAL</b>	NORMAL	NORMAL

## 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>23</b>	19	29
Chromium	ppm	ASTM D5185m >20	<b>&lt;1</b>	0	<1
Nickel	ppm	ASTM D5185m >2	<b>&lt;1</b>	0	0
Titanium	ppm	ASTM D5185m >2	<b>&lt;1</b>	0	0
Silver	ppm	ASTM D5185m >2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m >25	<b>6</b>	6	2
Lead	ppm	ASTM D5185m >40	<b>3</b>	<1	2
Copper	ppm	ASTM D5185m >330	<b>18</b>	17	59
Tin	ppm	ASTM D5185m >15	<b>1</b>	<1	1
Vanadium	ppm	ASTM D5185m	<b>0</b>	0	0
Cadmium	ppm	ASTM D5185m	<b>&lt;1</b>	0	0

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	<b>0</b>	0	<1
Barium	ppm	ASTM D5185m 0	<b>9</b>	0	0
Molybdenum	ppm	ASTM D5185m 60	<b>57</b>	56	59
Manganese	ppm	ASTM D5185m 0	<b>&lt;1</b>	0	<1
Magnesium	ppm	ASTM D5185m 1010	<b>842</b>	899	890
Calcium	ppm	ASTM D5185m 1070	<b>974</b>	1037	1049
Phosphorus	ppm	ASTM D5185m 1150	<b>961</b>	950	988
Zinc	ppm	ASTM D5185m 1270	<b>1120</b>	1165	1196
Sulfur	ppm	ASTM D5185m 2060	<b>3435</b>	3476	3434

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	<b>8</b>	2	3
Sodium	ppm	ASTM D5185m	<b>1</b>	3	1
Potassium	ppm	ASTM D5185m >20	<b>3</b>	4	<1

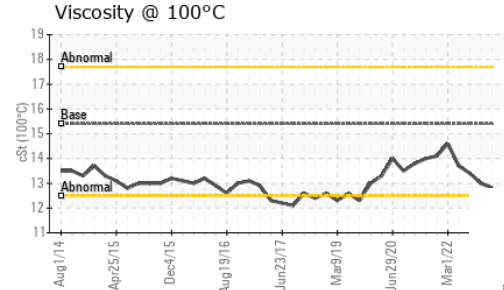
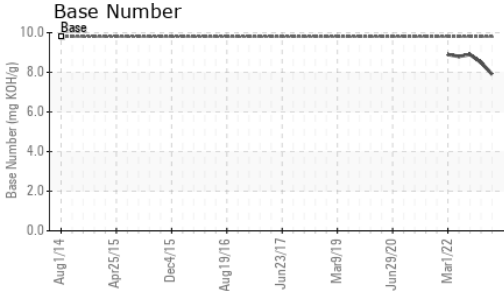
## INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	<b>1.1</b>	1	1.3
Nitration	Abs/cm	*ASTM D7624 >20	<b>7.1</b>	6.9	7.8
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>20.0</b>	20.2	22.2

## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>15.2</b>	14.2	15.4
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	<b>7.9</b>	8.5	8.9

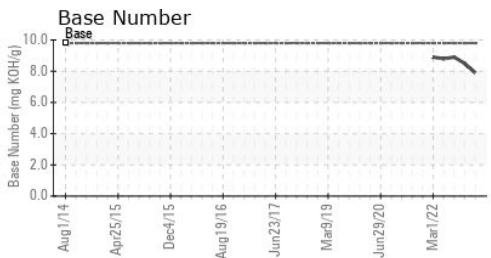
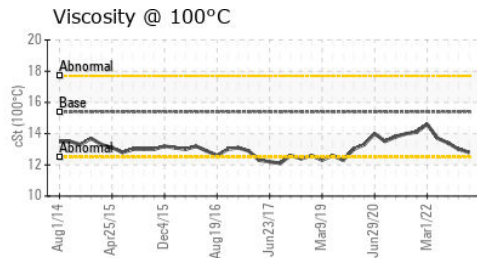
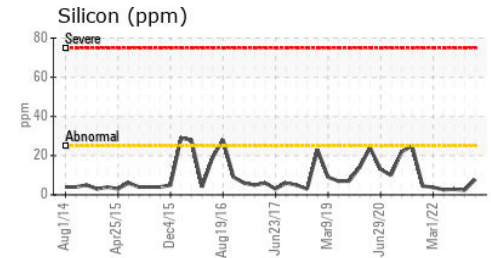
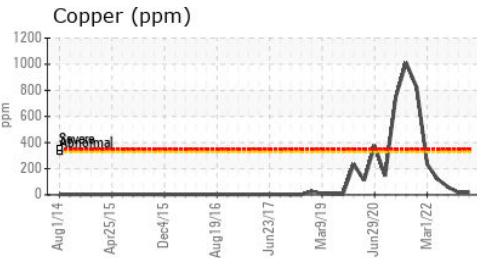
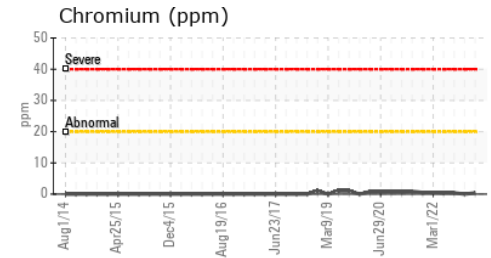
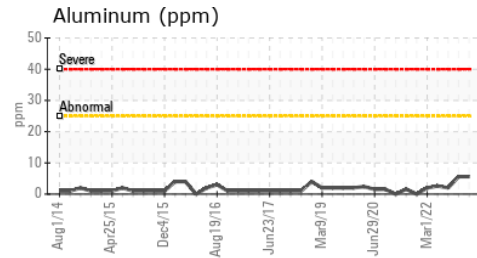
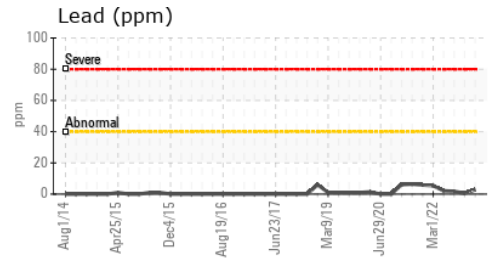
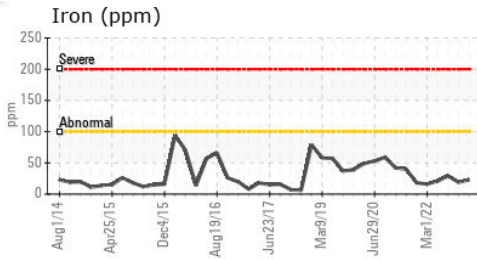
# OIL ANALYSIS REPORT



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	15.4	<b>12.8</b>	13.0	13.4

## GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : PCA0087071 **Received** : 20 Nov 2023  
**Lab Number** : 06013152 **Diagnosed** : 24 Nov 2023  
**Unique Number** : 10752296 **Diagnostician** : Jonathan Hester  
**Test Package** : MOB 1 ( Additional Tests: TBN )

**Kemp Quarries - RVM-Butterfield**  
 8651 Farm Rd 2115  
 Purdy, MO  
 US 65734  
 Contact: LEE DUCHANOIS  
 lduchanois@kempquarries.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)

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F: