

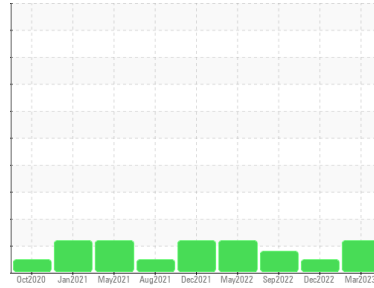


# OIL ANALYSIS REPORT



Area  
**KEMP QUARRIES / PRYOR STONE [62654]**  
 Machine Id  
**OHT110**  
 Component  
**Diesel Engine**  
 Fluid  
**PETRO CANADA DURON SHP 15W40 (--- GAL)**

Sample Rating Trend



FUEL



## DIAGNOSIS

### Recommendation

We advise that you check the fuel injection system. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. ( Customer Sample Comment: Pm4 performed. All oil samples taken. All oils, and all filters changed. All breathers, and screens cleaned/ replaced. )

### Wear

All component wear rates are normal.

### Contamination

There is a moderate amount of fuel present in the oil.

### Fluid Condition

Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil.

## SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	<b>PCA0083921</b>	PCA0070312	PCA0048946
Sample Date	Client Info	<b>24 Mar 2023</b>	15 Dec 2022	16 Sep 2022
Machine Age	hrs	<b>27095</b>	33273	26001
Oil Age	hrs	<b>515</b>	593	466
Oil Changed	Client Info	<b>Changed</b>	Changed	Changed
Sample Status		<b>ABNORMAL</b>	NORMAL	MARGINAL

## 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>23</b>	18	29
Chromium	ppm	ASTM D5185m >20	<b>0</b>	0	<1
Nickel	ppm	ASTM D5185m >2	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m >2	<b>0</b>	0	0
Silver	ppm	ASTM D5185m >2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m >25	<b>&lt;1</b>	0	<1
Lead	ppm	ASTM D5185m >40	<b>0</b>	<1	<1
Copper	ppm	ASTM D5185m >330	<b>1</b>	1	2
Tin	ppm	ASTM D5185m >15	<b>0</b>	0	<1
Vanadium	ppm	ASTM D5185m	<b>0</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>	0	2
Barium	ppm	ASTM D5185m 0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m 60	<b>59</b>	57	60
Manganese	ppm	ASTM D5185m 0	<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m 1010	<b>936</b>	832	936
Calcium	ppm	ASTM D5185m 1070	<b>1051</b>	1041	1104
Phosphorus	ppm	ASTM D5185m 1150	<b>984</b>	964	1048
Zinc	ppm	ASTM D5185m 1270	<b>1247</b>	1113	1241
Sulfur	ppm	ASTM D5185m 2060	<b>3235</b>	2889	3738

## CONTAMINANTS

method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m >25	<b>4</b>	3	3
Sodium	ppm	ASTM D5185m	<b>&lt;1</b>	0	0
Potassium	ppm	ASTM D5185m >20	<b>&lt;1</b>	<1	1
Fuel	%	ASTM D3524 >5	<b>▲ 7.3</b>	<1.0	<b>▲ 4.1</b>

## INFRA-RED

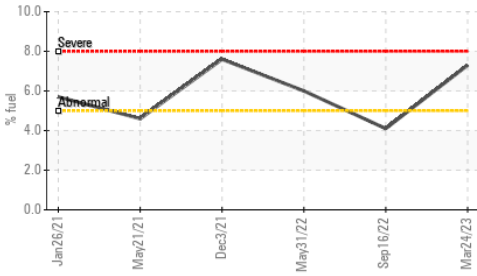
method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844 >3	<b>0.7</b>	0.6	0.6
Nitration	Abs/cm	*ASTM D7624 >20	<b>9.4</b>	8.5	8.9
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>17.7</b>	18.9	20.5

## FLUID DEGRADATION

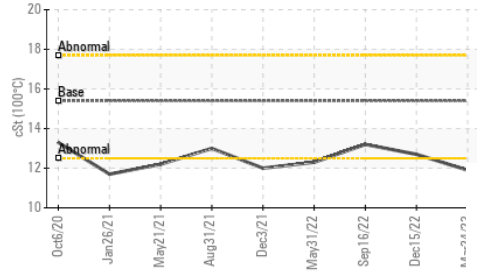
method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>16.5</b>	15.8	16.6
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	<b>7.5</b>	8.9	10.2

# OIL ANALYSIS REPORT

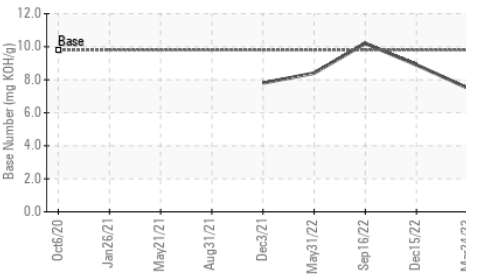
**▲ Fuel Dilution**



**▲ Viscosity @ 100°C**



**Base Number**

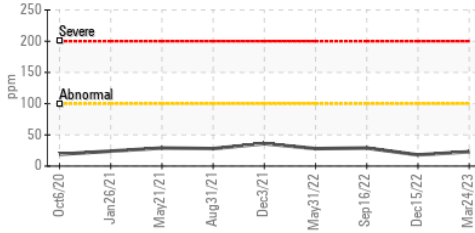


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

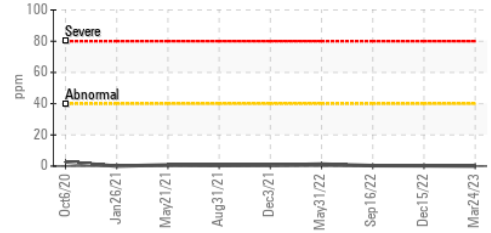
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4 ▲ <b>11.9</b>	12.7	13.2

**GRAPHS**

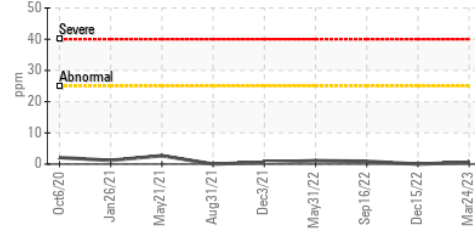
**Iron (ppm)**



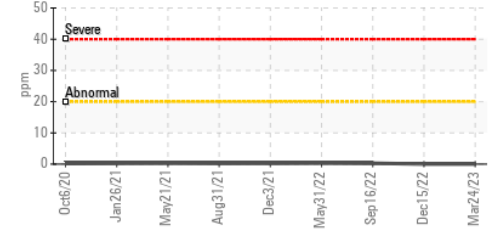
**Lead (ppm)**



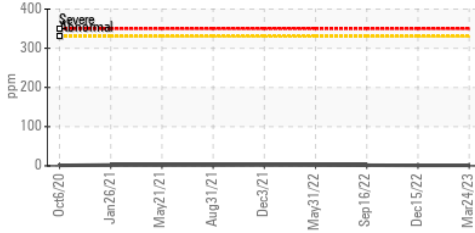
**Aluminum (ppm)**



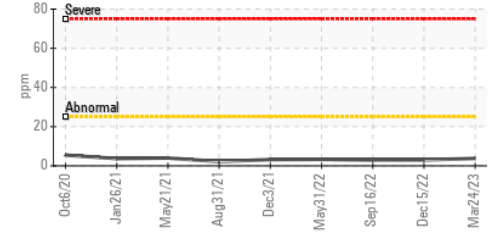
**Chromium (ppm)**



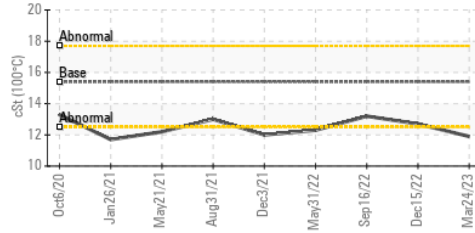
**Copper (ppm)**



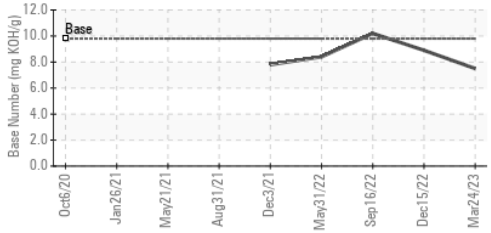
**Silicon (ppm)**



**▲ Viscosity @ 100°C**



**Base Number**



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : PCA0083921 **Received** : 03 May 2023  
**Lab Number** : **05837082** **Tested** : 08 May 2023  
**Unique Number** : 10455885 **Diagnosed** : 08 May 2023 - Don Baldrige  
**Test Package** : MOB 1 ( Additional Tests: FuelDilution, PercentFuel, TBN )

**Kemp Quarries - Pryor Stone - Pryor**  
 1050 E 520 Rd  
 Pryor, OK  
 US 74361  
 Contact:  
 pryor@pryorstone.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)