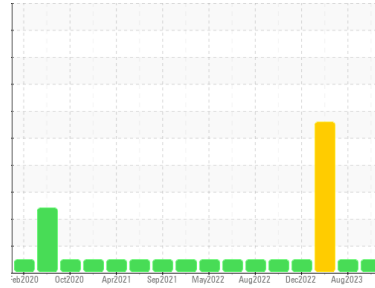


OIL ANALYSIS REPORT



Area
KEMP QUARRIES / RIVER VALLEY BACKBONE
Machine Id
WL135
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

Sample Rating Trend



NORMAL

✓

DIAGNOSIS

- Recommendation**
Resample at the next service interval to monitor.
- 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		PCA0084861	PCA0084832	PCA0037133
Sample Date	Client Info		25 Oct 2023	12 Aug 2023	13 Jan 2023
Machine Age	hrs	Client Info	52934	52602	52005
Oil Age	hrs	Client Info	332	300	300
Oil Changed	Client Info		Changed	Changed	Changed
Sample Status			NORMAL	NORMAL	ABNORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>5	<1.0	<1.0	<1.0
Glycol	WC Method		NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >100	24	18	▲ 118
Chromium	ppm	ASTM D5185m >20	<1	<1	3
Nickel	ppm	ASTM D5185m >2	<1	0	▲ 5
Titanium	ppm	ASTM D5185m >2	<1	<1	0
Silver	ppm	ASTM D5185m >2	0	<1	0
Aluminum	ppm	ASTM D5185m >25	2	1	▲ 14
Lead	ppm	ASTM D5185m >40	2	3	1
Copper	ppm	ASTM D5185m >330	15	33	▲ 99
Tin	ppm	ASTM D5185m >15	<1	<1	▲ 8
Vanadium	ppm	ASTM D5185m	0	<1	0
Cadmium	ppm	ASTM D5185m	<1	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	<1	<1	29
Barium	ppm	ASTM D5185m 0	5	0	0
Molybdenum	ppm	ASTM D5185m 60	61	65	95
Manganese	ppm	ASTM D5185m 0	<1	<1	5
Magnesium	ppm	ASTM D5185m 1010	887	978	621
Calcium	ppm	ASTM D5185m 1070	1019	1118	1463
Phosphorus	ppm	ASTM D5185m 1150	1051	1015	634
Zinc	ppm	ASTM D5185m 1270	1173	1249	810
Sulfur	ppm	ASTM D5185m 2060	3269	3615	1729

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	4	3	▲ 77
Sodium	ppm	ASTM D5185m	21	46	4
Potassium	ppm	ASTM D5185m >20	6	11	45

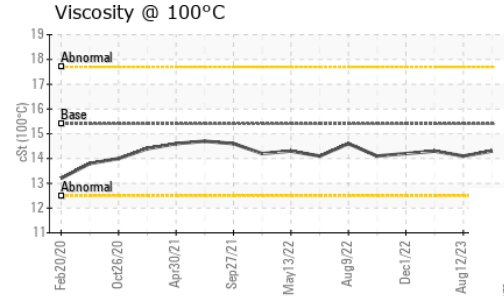
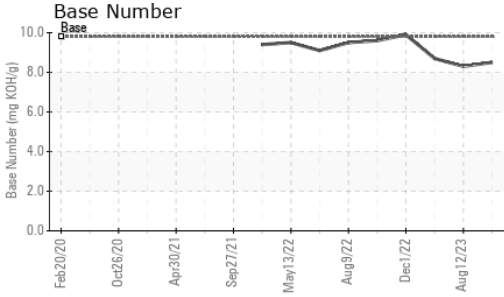
INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	1.2	0.9	0.9
Nitration	Abs/cm	*ASTM D7624 >20	6.9	6.4	6.2
Sulfation	Abs/.1mm	*ASTM D7415 >30	20.1	18.8	18.8

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	14.4	13.3	13.3
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	8.5	8.3	8.7

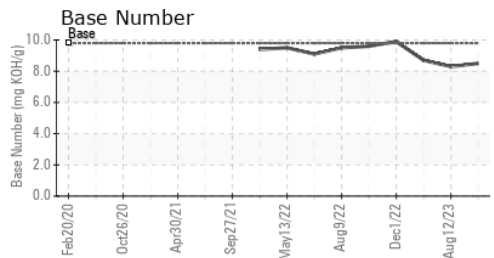
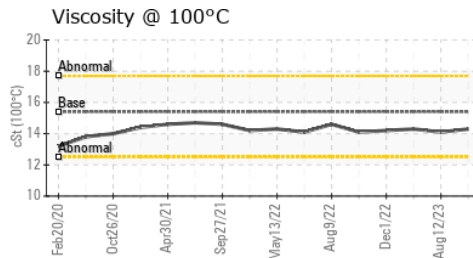
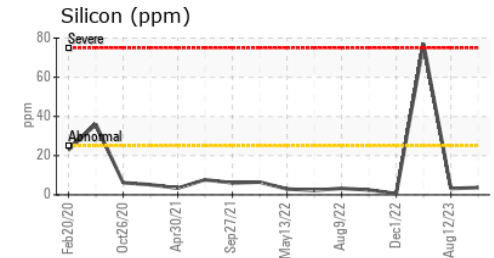
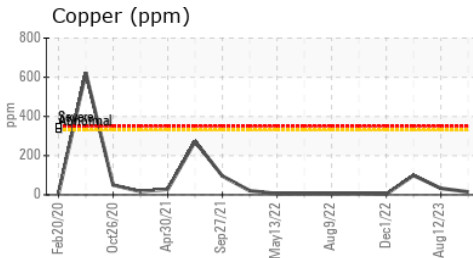
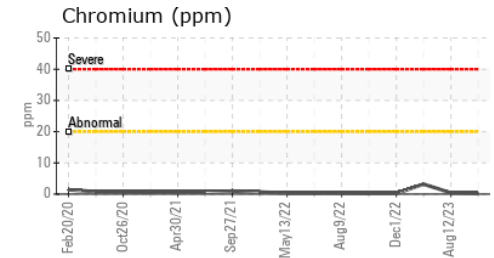
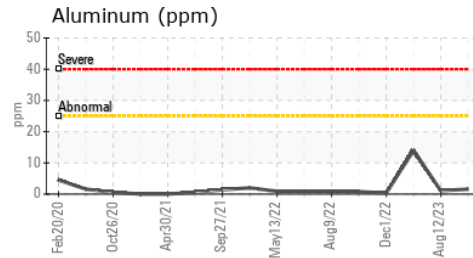
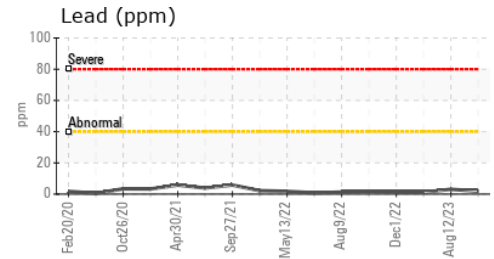
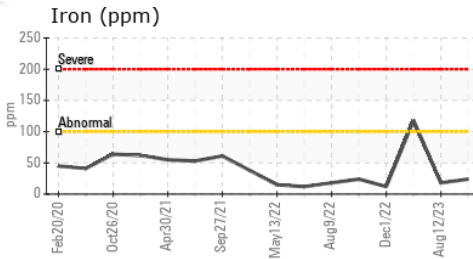
OIL ANALYSIS REPORT



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	14.3	14.1	14.3

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0084861 **Received** : 06 Nov 2023
Lab Number : 05999772 **Diagnosed** : 07 Nov 2023
Unique Number : 10728132 **Diagnostician** : Wes Davis
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)

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F: