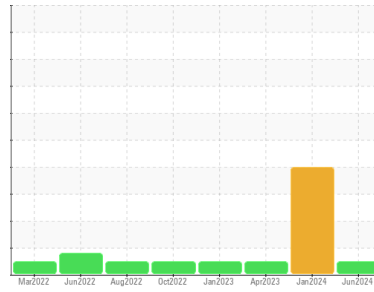


OIL ANALYSIS REPORT



Area
KEMP QUARRIES / RIVER VALLEY BACKBONE
 Machine Id
WL147
 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		PCA0108592	PCA0069951	PCA0085823
Sample Date	Client Info		28 Jun 2024	30 Jan 2024	06 Apr 2023
Machine Age	hrs	Client Info	29928	29627	28770
Oil Age	hrs	Client Info	301	312	345
Oil Changed	Client Info		Changed	Changed	Changed
Sample Status			NORMAL	ABNORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>5	<1.0	<1.0	<1.0
Water	WC Method	>0.2	NEG	NEG	NEG
Glycol	WC Method		NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >100	75	▲ 186	24
Chromium	ppm	ASTM D5185m >20	4	8	1
Nickel	ppm	ASTM D5185m >2	<1	▲ 6	<1
Titanium	ppm	ASTM D5185m >2	<1	1	<1
Silver	ppm	ASTM D5185m >2	0	<1	0
Aluminum	ppm	ASTM D5185m >25	10	● 17	3
Lead	ppm	ASTM D5185m >40	17	17	3
Copper	ppm	ASTM D5185m >330	49	96	11
Tin	ppm	ASTM D5185m >15	2	4	<1
Vanadium	ppm	ASTM D5185m	0	<1	0
Cadmium	ppm	ASTM D5185m	0	<1	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	2	2	4
Barium	ppm	ASTM D5185m 0	0	0	0
Molybdenum	ppm	ASTM D5185m 60	76	75	63
Manganese	ppm	ASTM D5185m 0	<1	2	<1
Magnesium	ppm	ASTM D5185m 1010	1251	1097	943
Calcium	ppm	ASTM D5185m 1070	1577	1404	1194
Phosphorus	ppm	ASTM D5185m 1150	1398	1308	1109
Zinc	ppm	ASTM D5185m 1270	1703	1528	1283
Sulfur	ppm	ASTM D5185m 2060	4129	3300	2987

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	20	▲ 49	7
Sodium	ppm	ASTM D5185m	9	23	4
Potassium	ppm	ASTM D5185m >20	2	16	2

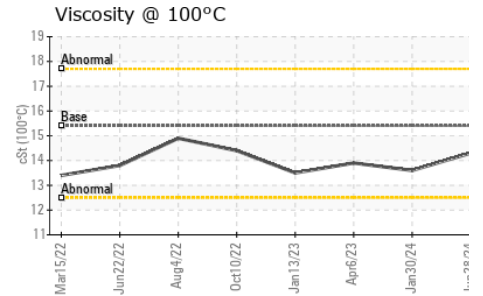
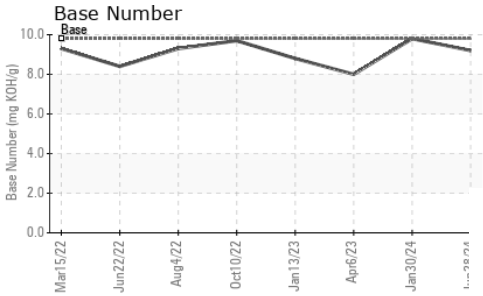
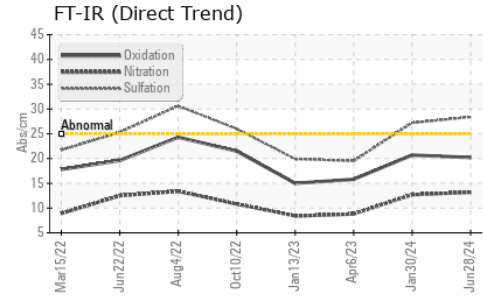
INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	1.4	1	0.5
Nitration	Abs/cm	*ASTM D7624 >20	13.2	12.7	8.8
Sulfation	Abs/.1mm	*ASTM D7415 >30	28.4	27.2	19.5

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	20.2	20.7	15.8
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	9.2	9.8	8.0

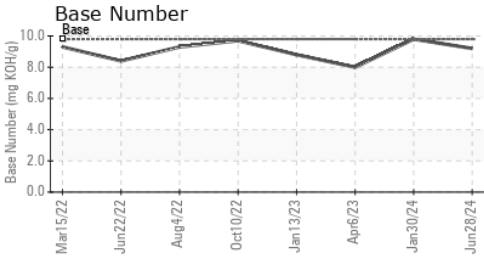
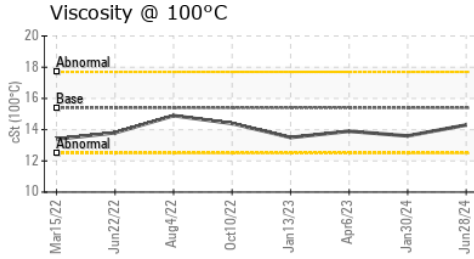
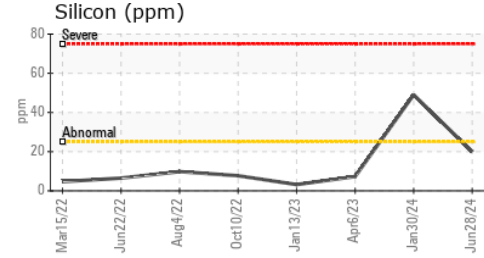
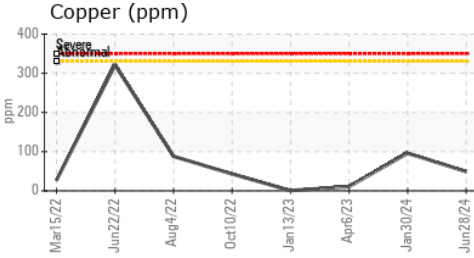
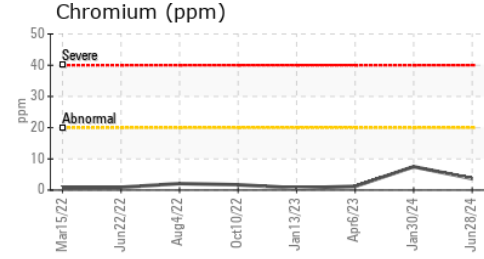
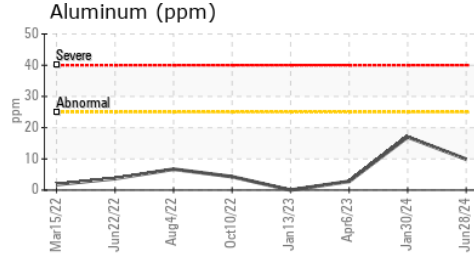
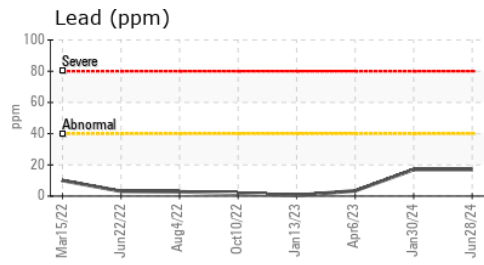
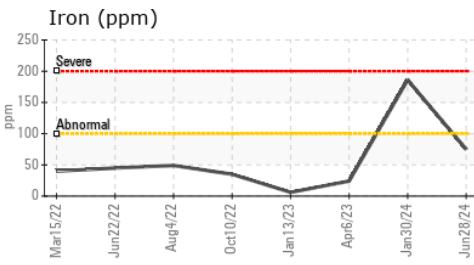
OIL ANALYSIS REPORT



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	13.6	13.9

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0108592 **Received** : 08 Jul 2024
Lab Number : **06231034** **Tested** : 10 Jul 2024
Unique Number : 11114527 **Diagnosed** : 10 Jul 2024 - Don Baldrige
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)