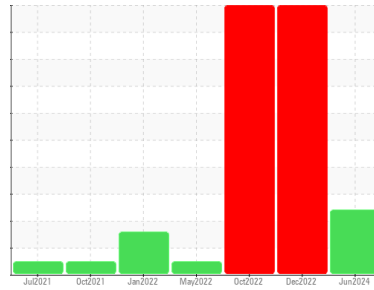


OIL ANALYSIS REPORT

Area
KEMP QUARRIES / RIVER VALLEY BACKBONE
 Machine Id
WL140
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

Sample Rating Trend



DIAGNOSIS

Recommendation
 We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Wear
 All component wear rates are normal.

Contamination
 Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

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		PCA0108588	PCA0062106	PCA0049019
Sample Date	Client Info		28 Jun 2024	07 Dec 2022	25 Oct 2022
Machine Age	hrs	Client Info	2785	2330	2330
Oil Age	hrs	Client Info	300	2388	202
Oil Changed	Client Info		Changed	Changed	Changed
Sample Status			ABNORMAL	SEVERE	SEVERE

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	79	▲ 260	▲ 777
Chromium	ppm	ASTM D5185m >20	2	8	▲ 22
Nickel	ppm	ASTM D5185m >4	0	0	2
Titanium	ppm	ASTM D5185m	<1	3	9
Silver	ppm	ASTM D5185m >3	0	0	0
Aluminum	ppm	ASTM D5185m >20	● 12	● 65	● 213
Lead	ppm	ASTM D5185m >40	<1	0	0
Copper	ppm	ASTM D5185m >330	1	4	10
Tin	ppm	ASTM D5185m >15	0	<1	2
Vanadium	ppm	ASTM D5185m	0	<1	<1
Cadmium	ppm	ASTM D5185m	0	0	0

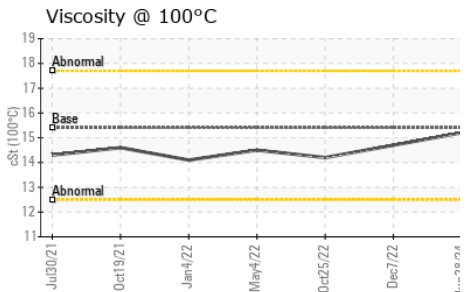
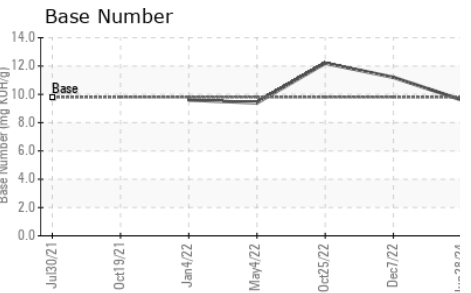
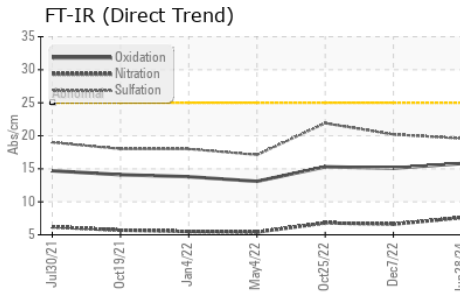
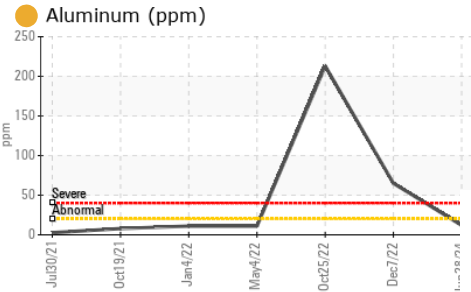
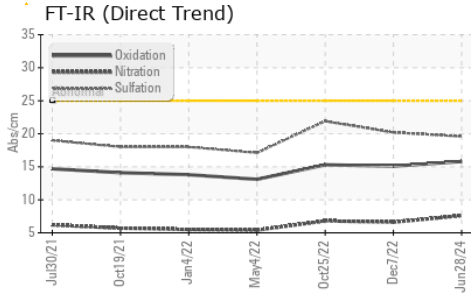
ADDITIVES	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	2	0	3
Barium	ppm	ASTM D5185m 0	0	2	0
Molybdenum	ppm	ASTM D5185m 60	70	64	65
Manganese	ppm	ASTM D5185m 0	1	3	7
Magnesium	ppm	ASTM D5185m 1010	1244	979	1018
Calcium	ppm	ASTM D5185m 1070	1465	1425	2120
Phosphorus	ppm	ASTM D5185m 1150	1228	1014	1051
Zinc	ppm	ASTM D5185m 1270	1532	1263	1262
Sulfur	ppm	ASTM D5185m 2060	3960	3560	3908

CONTAMINANTS	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	▲ 28	▲ 198	▲ 626
Sodium	ppm	ASTM D5185m	3	6	18
Potassium	ppm	ASTM D5185m >20	2	10	▲ 44

INFRA-RED	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	0.3	0.3	0.3
Nitration	Abs/cm	*ASTM D7624 >20	7.6	6.6	6.8
Sulfation	Abs/.1mm	*ASTM D7415 >30	19.6	20.2	21.9

FLUID DEGRADATION	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	15.8	15.1	15.3
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	9.6	11.2	12.2

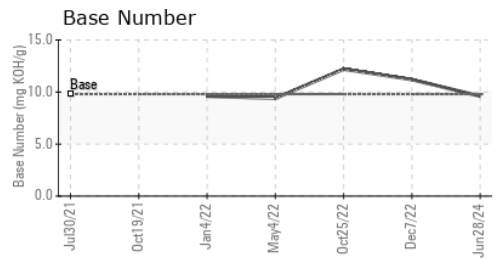
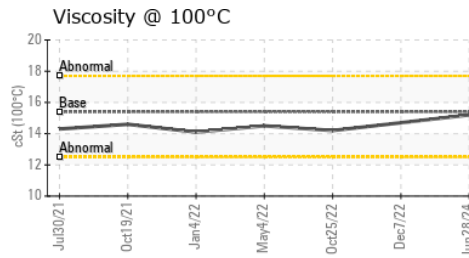
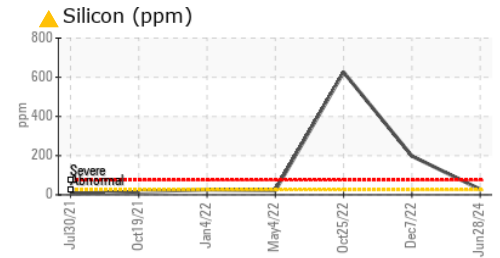
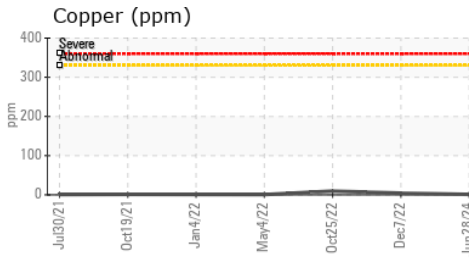
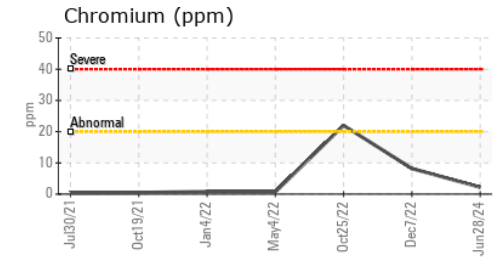
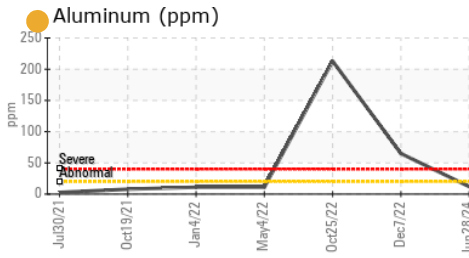
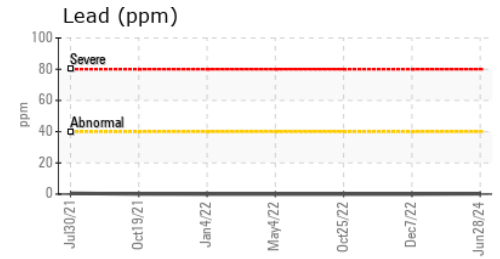
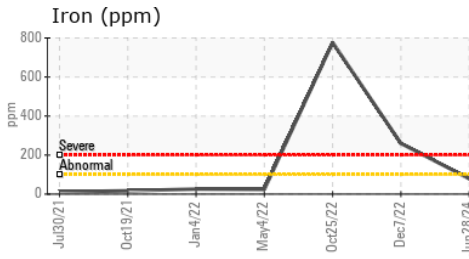
OIL ANALYSIS REPORT



PARAMETER	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	15.2	14.7	14.2

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0108588
Lab Number : 06231035
Unique Number : 11114528
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)