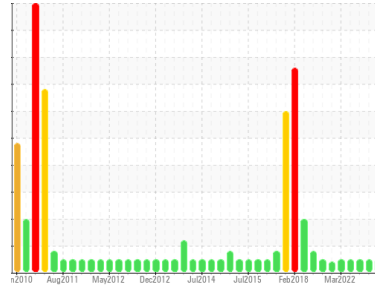


OIL ANALYSIS REPORT



Area
KEMP QUARRIES / KEMP STONE - FAIRLAND
Machine Id
WL071
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-2 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 acceptable for the time in service.

SAMPLE INFORMATION

	method	limit/base	current	history 1	history 2
Sample Number	Client Info		PCA0086304	PCA0086064	PCA0086756
Sample Date	Client Info		20 Jun 2023	06 Apr 2023	06 Feb 2023
Machine Age	hrs	Client Info	32119	31788	31528
Oil Age	hrs	Client Info	32119	31788	31528
Oil Changed	Client Info		Changed	Changed	Changed
Sample Status			NORMAL	NORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history 1	history 2
Fuel	WC Method	>5	<1.0	<1.0	<1.0
Glycol	WC Method		NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history 1	history 2
Iron	ppm	ASTM D5185m >100	71	53	55
Chromium	ppm	ASTM D5185m >20	1	<1	<1
Nickel	ppm	ASTM D5185m >2	<1	<1	<1
Titanium	ppm	ASTM D5185m >2	0	0	0
Silver	ppm	ASTM D5185m >2	0	0	0
Aluminum	ppm	ASTM D5185m >25	0	0	1
Lead	ppm	ASTM D5185m >40	12	3	4
Copper	ppm	ASTM D5185m >330	6	4	6
Tin	ppm	ASTM D5185m >15	2	1	2
Vanadium	ppm	ASTM D5185m	0	0	0
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

	method	limit/base	current	history 1	history 2
Boron	ppm	ASTM D5185m 0	<1	0	0
Barium	ppm	ASTM D5185m 0	0	2	0
Molybdenum	ppm	ASTM D5185m 60	66	66	67
Manganese	ppm	ASTM D5185m 0	<1	<1	<1
Magnesium	ppm	ASTM D5185m 1010	1005	980	968
Calcium	ppm	ASTM D5185m 1070	1121	1136	1111
Phosphorus	ppm	ASTM D5185m 1150	1076	1101	1030
Zinc	ppm	ASTM D5185m 1270	1283	1303	1288
Sulfur	ppm	ASTM D5185m 2060	3127	3262	3633

CONTAMINANTS

	method	limit/base	current	history 1	history 2
Silicon	ppm	ASTM D5185m >25	3	3	3
Sodium	ppm	ASTM D5185m	2	0	2
Potassium	ppm	ASTM D5185m >20	<1	<1	0

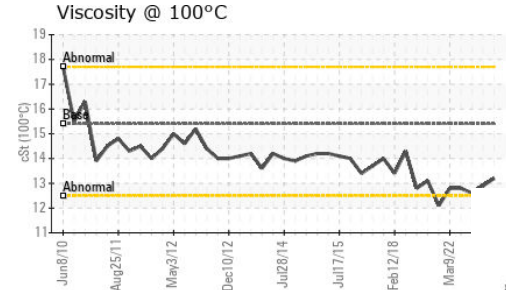
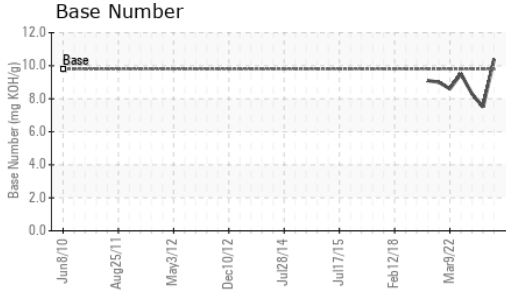
INFRA-RED

	method	limit/base	current	history 1	history 2
Soot %	%	*ASTM D7844 >3	0.1	1.3	1.2
Nitration	Abs/cm	*ASTM D7624 >20	4.9	8.6	10.1
Sulfation	Abs/.1mm	*ASTM D7415 >30	17.4	20.2	22.0

FLUID DEGRADATION

	method	limit/base	current	history 1	history 2
Oxidation	Abs/.1mm	*ASTM D7414 >25	13.4	15.8	17.7
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	10.4	7.5	8.3

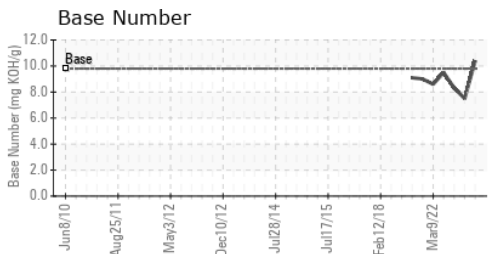
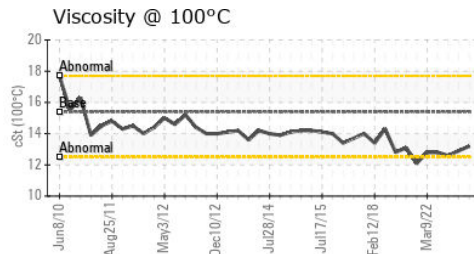
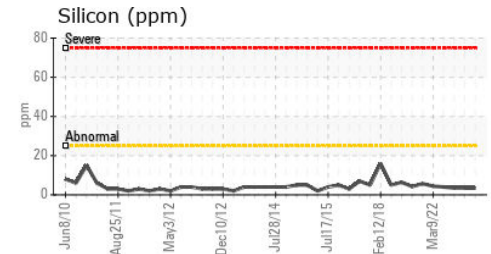
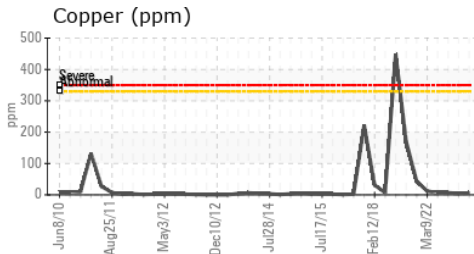
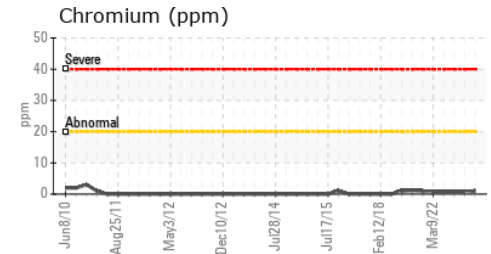
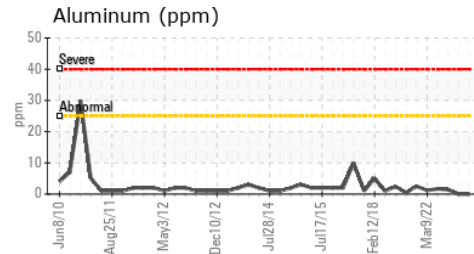
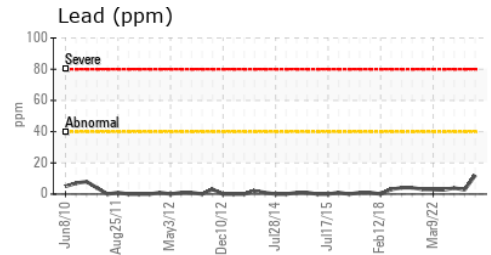
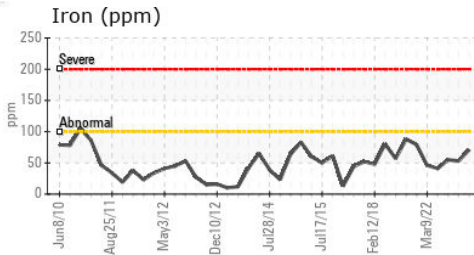
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history 1	history 2
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	history 1	history 2	
Visc @ 100°C	cSt	ASTM D445	15.4	13.2	12.9	12.6

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0086304
Lab Number : **05888184**
Unique Number : 10538667
Test Package : MOB 1 (Additional Tests: TBN)

Kemp Quarries - Kemp Stone - Fairland
 18350 S 590 Rd
 Fairland, OK
 US 74343
 Contact:
 fairland@kempstone.com
 T:
 F:

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)