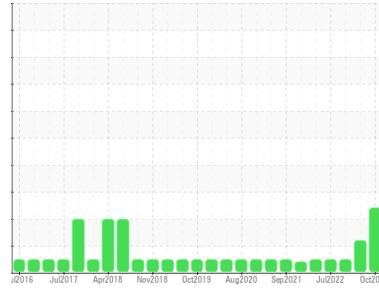


OIL ANALYSIS REPORT

Sample Rating Trend



FUEL



Area
KEMP QUARRIES / NEOSHO [66357]
Machine Id
WL111
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

DIAGNOSIS

Recommendation

We advise that you check the fuel injection system. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition. (Customer Sample Comment: PM-4 changed fluid and filters)

Wear

All component wear rates are normal.

Contamination

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

Fluid Condition

Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		PCA0084711	PCA0086325	PCA0086037
Sample Date	Client Info		10 Oct 2023	19 Jun 2023	21 Mar 2023
Machine Age	hrs	Client Info	29750	29243	28833
Oil Age	hrs	Client Info	29750	29243	28833
Oil Changed	Client Info		Changed	Changed	Changed
Sample Status			SEVERE	ABNORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Glycol	WC Method		NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >100	19	18	37
Chromium	ppm	ASTM D5185m >20	0	<1	<1
Nickel	ppm	ASTM D5185m >2	0	0	<1
Titanium	ppm	ASTM D5185m >2	0	0	0
Silver	ppm	ASTM D5185m >2	0	0	0
Aluminum	ppm	ASTM D5185m >25	1	0	2
Lead	ppm	ASTM D5185m >40	4	2	2
Copper	ppm	ASTM D5185m >330	173	9	14
Tin	ppm	ASTM D5185m >15	<1	1	2
Vanadium	ppm	ASTM D5185m	0	0	0
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	0	0	0
Barium	ppm	ASTM D5185m 0	0	0	<1
Molybdenum	ppm	ASTM D5185m 60	51	56	62
Manganese	ppm	ASTM D5185m 0	0	<1	<1
Magnesium	ppm	ASTM D5185m 1010	796	868	912
Calcium	ppm	ASTM D5185m 1070	861	998	1101
Phosphorus	ppm	ASTM D5185m 1150	850	940	1033
Zinc	ppm	ASTM D5185m 1270	1029	1122	1240
Sulfur	ppm	ASTM D5185m 2060	2476	2863	3270

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	8	7	5
Sodium	ppm	ASTM D5185m	2	<1	0
Potassium	ppm	ASTM D5185m >20	3	<1	2
Fuel	%	ASTM D3524 >5	18.6	6.0	<1.0

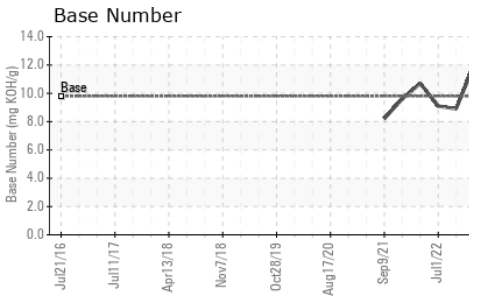
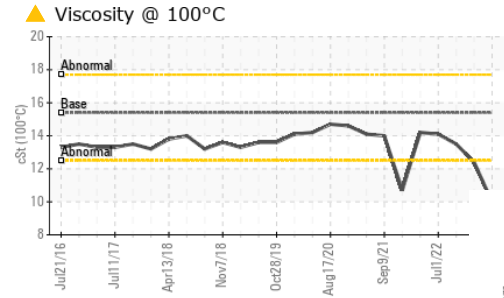
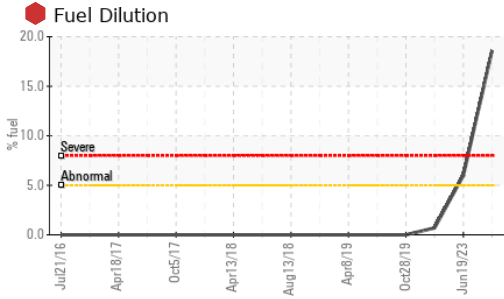
INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	0.4	0.3	0.5
Nitration	Abs/cm	*ASTM D7624 >20	6.7	17.5	7.0
Sulfation	Abs/.1mm	*ASTM D7415 >30	17.4	23.8	19.0

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	12.7	16.4	14.3
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	7.4	12.0	8.9

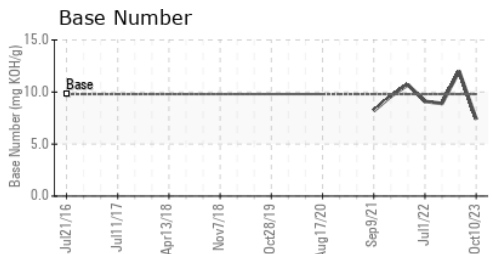
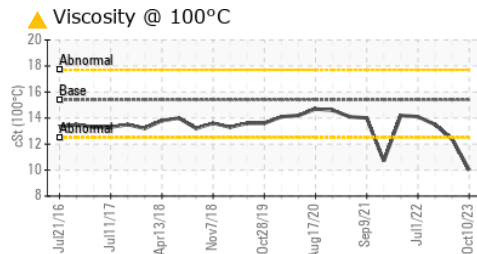
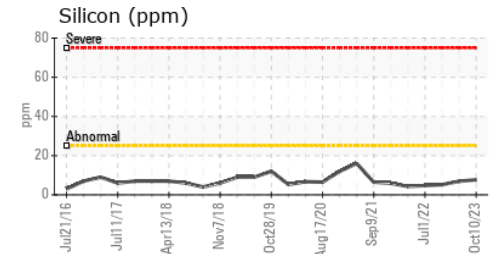
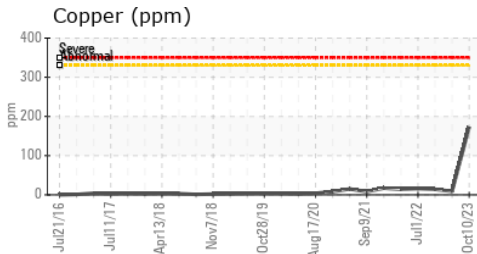
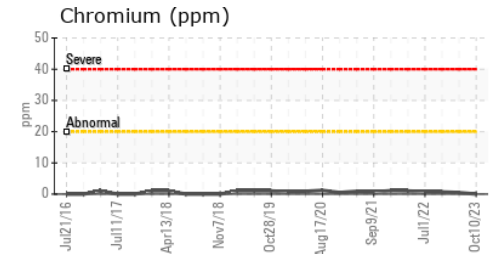
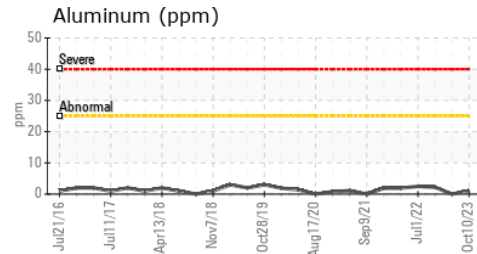
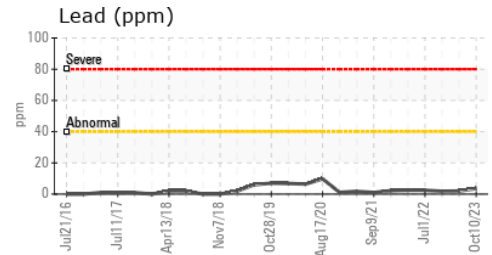
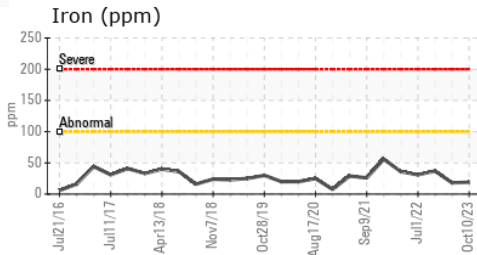
OIL ANALYSIS REPORT



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	▲ 10.0	▲ 12.4	13.5

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0084711 **Received** : 23 Oct 2023
Lab Number : 05987153 **Diagnosed** : 25 Oct 2023
Unique Number : 10709815 **Diagnostician** : Don Baldrige
Test Package : MOB 1 (Additional Tests: PercentFuel, TBN)

Kemp Quarries - Kemp Stone - Neosho
 19148 Ingersol Lane
 Neosho, MO
 US 64850
 Contact:
 neosho@kempstone.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: